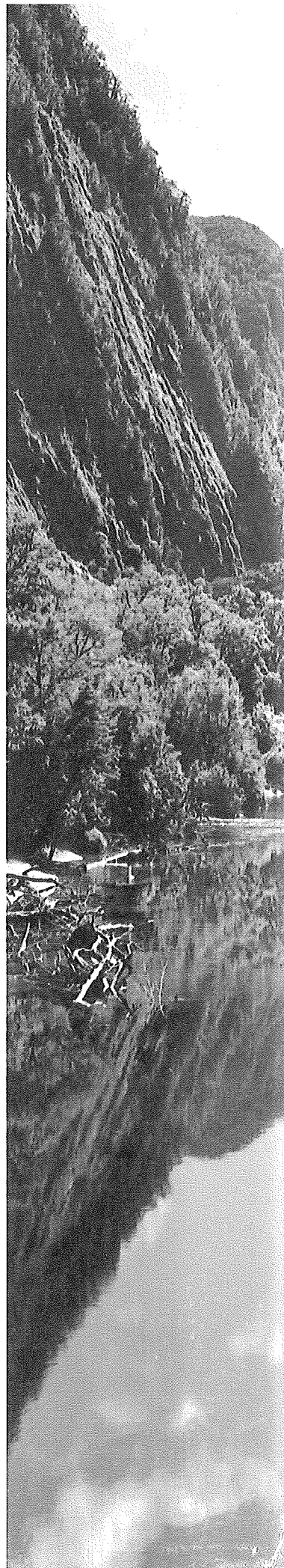


PHASE ONE
SITE CHARACTERIZATION REPORT

BUREAU OF INDIAN AFFAIRS
ROAD SHOP FACILITY
DUCK VALLEY INDIAN RESERVATION
OWYHEE, ELKO COUNTY, NEVADA

November 3, 1999
SECOR Job # 093.99052.003

SECOR



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November 3, 1999
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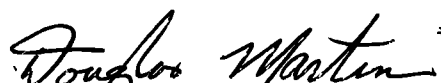

Douglas J. Martin, C.E.M.
Principal-in-Charge



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Appendix A	Quality Assurance Sampling Plan	<i>attached</i>
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Appendix C	Laboratory Analytical Reports: Herbicides	<i>attached</i>
Appendix D	Laboratory Analytical Reports: Total Phenols	<i>attached</i>

1.0 INTRODUCTION

SECOR International Incorporated (SECOR) has completed the site characterization of the Bureau of Indian Affairs (BIA) Road Shop Yard (Yard) on the Duck Valley Indian Reservation in Owyhee, Elko County, Nevada (*Figure 1, Site Location Map*). The Site Characterization activities were conducted in accordance with the SECOR July 1999 Site Characterization Work Plan for the Duck Valley site. Previous investigations have been conducted to evaluate potential petroleum hydrocarbon contamination at the site related to various underground storage tanks and a fuel oil pipeline located in the northeastern portion of the site. In the course of performing these investigations, yellow substances were identified in soils within the open storage bays at the site (*Figure 2, Site Map*). The yellow substances were identified as the herbicide Dinoseb and 2,4-dichlorophenoxyacetic Acid (2,4-D). Upon confirmation of the presence of Dinoseb and 2,4-D, access to the Yard was restricted with minimum Level C personal protective equipment (PPE) requirements.

The presence of the herbicide compounds prompted further investigation by the BIA into historic use of these substances and other potential contaminants at the site. Based on discussions with BIA personnel, 2,4,5-trichlorophenoxyacetic acid (2,4,5-T) was also stored at the site. Additionally, wood treatment chemicals, including Cresol, may have been used at the site.

1.1 WORK PLAN OBJECTIVES

The project objectives of this site characterization were as follows:

- (1) Identify locations of soil contaminated with the herbicides Dinoseb, 2,4-D, 2,4,5-T, and Cresol or other wood preservatives;
- (2) Estimate the lateral and vertical extent of impact to soil and the potential for impact to groundwater;
- (3) Collect sufficient data to quantify impacted soil volumes and evaluate remedial alternatives;
- (4) Characterize existing soil stockpiles for waste disposal; and
- (5) Oversee removal and disposal of identified soils containing herbicides.

The Site Characterization work was comprised of two phases:

- *Phase 1:* Shallow soil samples were collected from locations throughout the Road Yard. Composite sample locations were established at intersections of a 60-foot interval grid layout. At each composite sample location, five discrete soil samples were collected. One sample was collected at the grid intersection, and four samples were collected at locations 20 feet out from the intersection along the east, west, north, and south axes. For each of these composite areas, an equal volume of each of the five discrete soil samples was combined and mixed to form one composite soil sample. Each of these composite samples collected during Phase I was then submitted to an analytical laboratory for analysis of Dinoseb, 2,4-D and 2,4,5-T, and total phenolic compounds. Detailed information about sample collection, field screening and

analysis are provided in the attached QASP (*Appendix A*). Based on the results of soil sample analyses from Phase I, composite areas requiring further investigation (i.e., analysis of discrete soil samples) were identified.

- Phase II: A supplement to the Phase I Work Plan, to include submission of discrete soil samples collected during the Phase I investigation, and additional confirmation soil sampling. An addendum to the Site Characterization Report would be prepared subsequent to receipt of results from the Phase II activities. This work has been authorized, and is currently being implemented by SECOR.

1.2 SITE CHARACTERIZATION: PHASE I

Phase I of the Site Characterization included the following activities:

Project Coordination:

- Procurement of subcontractors and field equipment

Field Investigation:

- Mobilization
- Field personnel orientation
- QASP and HASP implementation
- Field screening and data collection
- Sample collection

Data Evaluation and Report Preparation:

- Laboratory analysis and data evaluation
- Technical memorandum preparation
- Report preparation
- Work Plan and QASP amendment
- Review
- Task Management and quality control

2.0 SITE BACKGROUND AND PHYSICAL SETTING

2.1 LOCATION

A map, which provides the location of the Duck Valley Indian Reservation and the town of Owyhee, is attached as **Figure 1**. The Reservation is rectangular in shape and encompasses an area of approximately 453 square miles (289,820 acres). The center of the Reservation is intersected along an east-west line by the Idaho/Nevada border. The main access to the Reservation and the town of Owyhee is via Highway 225 (State Highway 51) from the north and south. Owyhee is located approximately 96 miles north of Elko, Nevada, and 92 miles south of Mountain Home, Idaho, along Highway 225.

The town of Owyhee is situated at an elevation of 5,400 feet above mean sea level. The land to the east of town rises sharply to an elevation of approximately 6,700 feet (*Figure 1*). Owyhee is located on the eastern edge of a 9-mile by 20-mile valley containing the 12,800-acre Duck Valley Irrigation Project. Duck Valley is on the Snake River drainage at the northern extremes of the Great Basin. Irrigation water is controlled by the Wild Horse Dam located 30 miles upstream (to the southwest) on the Owyhee River.

2.2 PREVIOUS INVESTIGATIONS

Dinoseb, 2,4-D and 2,4,5-T have been identified in two previous investigations that were conducted at Duck Valley Indian Reservation facilities.

In April 1995, BIA contracted to have wastes in two areas characterized, packaged, and labeled. Several drums containing oil, tar and miscellaneous wastes were identified and removed from Building #332. Wastes were also removed from floor drains to the extent possible. Included in the material removed from Building #332 were two drums of 2,4-D, and one drum each of 2,4,5-T and Dinoseb.

Dinoseb was identified in soils in an area formerly occupied by a storage shed in February 1996. The shed was built by the BIA in the 1950's and was demolished by the BIA in the mid-1980's (Ecology and Environment, 1996). The Superfund Technical Assessment and Response Team (START) conducted a site assessment in this area in March 1996. A total of 10 surface soil samples, 15 subsurface soil samples, and 2 water samples from nearby water supplies were collected and field screened. Dinoseb concentrations in the 10 soil samples analyzed ranged from non-detect to 325 milligrams per kilogram soil (mg/kg). Selected soil samples were also analyzed for chlorinated pesticides; however, none were detected. Dinoseb was not detected in either of the water samples (Ecology and Environment, 1996a). In July 1996, START removed approximately 40 cubic yards of Dinoseb-contaminated soil in the former storage shed area (Ecology and Environment, 1996b).

2.3 CURRENT FIELD INVESTIGATIONS

On June 9, 1999, test pit excavations were being sampled at the Yard in Bay #3 of the open storage structure (Building #324) located in the central portion of the site (*Figure 2*). During these activities, yellow stained soil with a strong odor was identified and sampled. Local personnel with knowledge of the site suggested that the soil might contain herbicides. Based on that information, the Yard was secured and access was limited. A sample of the soil was collected and sent for analysis to Alpha Analytical, Inc., a Nevada certified laboratory. Laboratory analytical results were received on June 14, 1999, indicating that the soil contained 2,4-D and Dinoseb in concentrations of 700 mg/kg each.

Contamination from Dinoseb and 2,4-D was expected to be limited to shallow subsurface soil. The primary pathways of migration of the compounds were expected to be through surface runoff and percolation through the soils to groundwater. Presumed routes of human exposure were dermal absorption and inhalation. Due to the hazardous nature of the compounds, access to the Yard was restricted until personnel monitoring data could be obtained and interpreted.

In order to better evaluate personnel protection, air-monitoring devices were worn by personnel during site characterization activities conducted in the early part of June 1999. These personnel air monitoring samples were submitted for analysis to Travelers Property Casualty, AIHA Accredited Laboratory. The air sample analysis results indicated that the Dinoseb and 2,4-D were not volatilizing during the field activities.

Additionally, two "Mini-vol" air particulate samplers were installed in Bay #3 of the open storage structure and downwind of Bay #3 to monitor ambient conditions. These units were activated on June 25, 1999 and filter samples were collected throughout the next 10 days. Laboratory analytical results of Mini-vol air particulate samples indicated that low levels of Dinoseb were detected in all seven of the samples analyzed. The concentrations ranged from 0.07 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to 0.49 $\mu\text{g}/\text{m}^3$. 2,4-D and 2,4,5-T were not detected in any of the samples. The Preliminary Remediation Goal (PRG) for Dinoseb is 3.7 $\mu\text{g}/\text{m}^3$ (EPA Region 9 PRG Tables, http://www.epa.gov/region09/waste/sfund/prg/S3_08.htm; 08/04/99). The highest detected concentration is approximately one-tenth of the PRG. The PRG is an estimated concentration that an adult or child would be continually exposed to for seven years before it would be considered a human health hazard.

Information obtained from the BIA subsequent to the discovery of Dinoseb and 2,4-D in Bay #3 soil suggested that herbicides and wood preservatives (e.g., Cresol) might have been used in several locations in the Yard. Based on this information, an unbiased sampling plan was recommended as Phase I of a two-phase Site Characterization Work Plan. Phase I was initiated for the purpose of identifying areas within the Yard where soil contained any or all of the contaminants of concern (COCs): Dinoseb, 2,4-D, 2,4,5-T, and Cresols. The work plan called for a review of composite-sample soil analytical results from Phase I, and subsequent analysis of collected discrete soil samples in those areas where the composite sample contained COCs in excess of action levels. Follow-on Phase II sampling would occur as needed, based on the results of the Phase I analysis.

Prior to the site characterization work, composite samples were collected from each of the stockpiles of soil excavated from areas around the open storage structure, including Bay #3. Waste characterization analysis was used to segregate non-hazardous waste from hazardous waste for disposal purposes.

3.0 FIELD INVESTIGATION

3.1 PROJECT COORDINATION

Prior to field activities, SECOR arranged the services of Cherokee General Corporation (Cherokee) to conduct the excavation and containment of contaminated soil within the Yard. The BIA in Owyhee was contacted to assist with procurement of fire hoses and for providing personnel to assist with movement of equipment within the Yard. The fire hoses were used for spraying water on dry surface soils to prevent airborne dust during dirt-moving activities.

SECOR arranged with Universal Environmental, Inc., to deliver roll-off boxes for containment of excavated hazardous soil. Universal was also contracted to pick up the boxes of hazardous soil and transport them to Clean Harbors Hazardous Waste Facility in Kimball, Nebraska.

SECOR contracted with APPL Lab of Fresno, California, to perform the chemical analyses of collected soil samples from the Yard. APPL also supplied the in-field swipe-test kits for immediate detection of Dinoseb on the surfaces of equipment within the Yard.

Prior to mobilization, SECOR arranged the delivery of personal protective equipment, sample containers, tools, and decontamination materials necessary to conduct field activities.

3.2 ORIENTATION, HEALTH AND SAFETY, AND QUALITY ASSURANCE

SECOR personnel arrived at the Road Shop Yard on September 14, 1999. A meeting was conducted to discuss provisions of the Quality Assurance Plan, the Health and Safety Plan (*Appendix B*), and sampling protocol. Materials were retrieved from a storage barn at the Tribal Recycling Center, and tools and materials were set up just inside the north entrance gate to the Yard.

Cherokee General personnel arrived at the Road Shop Yard on September 17, 1999. A morning safety meeting was held between SECOR and Cherokee General personnel to discuss health and safety issues relative to project activities. The project Health and Safety Plan was presented to Cherokee General for review and signature.

3.3 SAMPLE COLLECTION

Sampling Locations and Grid: After a cursory survey of access to locations throughout the Road Shop Yard, SECOR personnel established a sampling grid throughout the Yard in accordance with the Work Plan. Composite sample locations were marked on 60-foot centers, and four peripheral discrete sample locations were marked out at 18 to 20 feet from each of the composite samples along north, south, east, and west axes. Where machinery or equipment blocked the actual sample location, the location was moved to the closest area of clear ground.

Concentrated sampling grids were established in three separate areas of the Yard where COCs were suspected of having been handled in the past. These areas were (1) the far southwest corner of the Yard (*Figure 3*); (2) at the north end of the Maintenance Building #323 (*Figure 4*); and (3) inside Bay #3 of the open storage structure #324 (*Figure 5*), where the Dinoseb was initially discovered.

The Site Characterization Work Plan also specified concentrated sampling west of Bay #11 (later changed to sampling inside Bay #11), but Bays #11 (and #9 and #10) were found to have concrete floors, which precluded soil sampling within the bays. In lieu of the original sampling plan for Bay #11, a composite sample was collected just outside the edge of the concrete floor at the entrance to the bay (*Figure 2*). The sampling layout for the north end of the Maintenance Building #323 was also changed in the field. Approximately half of the area specified for concentrated sampling was covered by a concrete pad, precluding sampling in that area. The remaining accessible area was laid out on a grid, and concentrated sampling was conducted, resulting in two composite samples instead of the original four specified in the Work Plan.

Soil Sample Collection: Initial attempts to collect sub-surface soil samples were impeded by the extremely hard nature of the ground surface throughout most of the Road Shop Yard. To facilitate penetration of the sub-surface and soil collection, SECOR rented a 60-pound

jackhammer and spade bit. The jackhammer allowed sub-surface penetration to a depth of 6 to 10 inches, depending on the density of gravel encountered. Most of the soil samples within the Yard were collected between four to nine inches below grade.

Discrete soil samples were transferred to 4-ounce sample jars with Teflon-lined lids. At each discrete sample location, an aliquot of approximately 2 ounces of soil was transferred to a stainless steel mixing dish. When all discrete sample aliquots were collected in the mixing dish, the soil was thoroughly mixed and transferred to a 4-ounce sample jar as a composite sample. All sample jars were labeled, sealed in plastic bags, and placed in cold storage. All sample collection equipment, including spade bit, trowel, and gloves, were decontaminated between discrete sample collection points. The mixing dish was decontaminated between composite sample locations. Fresh decontamination wash and rinse water was provided between every six composite sample locations.

Field screening and sample analysis: Initially, soil from each sample location was placed in a zip-loc[®] bag and placed in the sun to allow vaporization and subsequent measurement of organic vapors using a photo-ionization detection (PID) organic vapor monitor. The lack of condensation on the inside of the bags indicated, however, that sufficient vaporization for measurement of organic vapors might not be occurring. Since reliable PID data could not be collected, a decision was made to abandon organic vapor measurements on the dry soil samples.

Each sample jar of composite soil was bubble-wrapped and recorded on a chain-of-custody. Each sample cooler was sealed and taped. All composite soil samples, duplicates, and field blanks supplied by APPL Lab, were sent by overnight delivery to APPL Lab for analysis of Dinoseb, 2,4-D, 2,4,5-T, and total phenols.

4.0 FIELD INVESTIGATION RESULTS

Analytical results for 2,4-D, 2,4,5-T, and Dinoseb from the collection of surface soil samples in the Road Shop Yard are summarized in **Table 1**. Laboratory analytical reports are provided in **Appendix C**.

4.1 HERBICIDES

Open Yard Grid: Analytical results for Dinoseb, 2,4-D, and 2,4,5-T from the collection of surface soil samples in the Road Shop Yard are presented in **Table 1**. Impact to soil from Dinoseb (yellow coloration of the soil) was not observed in any of the soil samples collected.

A total of 39 composite soil samples along the open yard grid were collected and analyzed for Dinoseb, 2,4-D, and 2,4,5-T. Five of these composite samples contained detectable amounts of either Dinoseb (ARYC5) or 2,4-D (ARYC2, ARYF1, ARYF3, and ARYF4) in relatively low concentrations (0.13 mg/kg and less than 0.7 mg/kg, respectively). Sample locations ARYF3 and ARYF4 are located outside (to the east of) the entrance to Bays #1, #2, and #3. **Figure 2** provides the sample locations where these compounds were detected.

Open Storage Bays: There are a total of 11 bays within the open storage structure located in the center of the Road Shop Yard. Bay #9 and Bay #10 contained concrete floors, which precluded soil sample collection. A total of ten samples were collected from the other nine bays. Bay #11

also contained a concrete floor, but since concentrated sampling was planned for this bay because of suspected past activities involving wood preservatives, a composite sample was collected from the entrance to the bay, at the edge of the concrete floor.

Bay #3 was a confirmed source of Dinoseb contamination. Soil with visible signs of Dinoseb contamination (yellow coloration) in Bay #3 was excavated and removed, contained, and subsequently incinerated. Two composite samples were then collected from Bay #3.

Low concentrations of Dinoseb (less than 0.1 mg/kg) were detected in both of the composite soil samples from Bay #3. However, Dinoseb was not detected in any of the other bays. Chemical compounds 2,4-D and 2,4,5-T were detected at low concentrations (less than 17 mg/kg and less than 0.07 mg/kg, respectively) in Bays #3, #6 and #11. Lone amounts of 2,4-D (less than 3 mg/kg) were detected in Bays #2, #4, #5, and #8. Table 1 presents the analytical results from soil samples within the Open Storage bays.

Southwest Corner of the Yard: Concentrated sampling was conducted in the far southwest corner of the Road Shop Yard due to suspected past activities involving mixing and/or storage of chemical compounds in that area. Figure 3 provides the sampling layout for the southwest corner of the Yard. None of the soil samples collected from the southwest corner contained detectable amounts of Dinoseb, 2,4-D, or 2,4,5-T.

North End of the Maintenance Building: Concentrated sampling was also conducted at the entrance to the (north end of) the BIA Road Shop Maintenance Building #323. This area was reportedly used for mixing of chemical compounds in the past, facilitated by the presence of a water faucet on the north wall of the building. Figure 4 provides the sampling layout for the north end of the Maintenance Building. None of the soil samples collected from this area contained detectable amounts Dinoseb, 2,4-D, or 2,4,5-T.

4.2 TOTAL PHENOLS

Analytical results for total phenols from the collection of surface soil samples in the Road Shop Yard are summarized in Table 2. Laboratory analytical reports are provided in Appendix D. Visible impact to soil from cresol or other oil-based substances was not observed in any of the soil samples collected.

5.0 DATA EVALUATION AND CONCLUSIONS

Analytical results from the soil samples collected throughout the Road Shop Yard are presented in Tables 1 and 2. Locations where COCs were detected and their corresponding concentrations are presented in Figure 2. Overall, the results indicate that the current magnitude of near-surface soil contamination from Dinoseb, 2,4-D, and/or 2,4,5-T does not present a risk to human health, based on EPA Preliminary Remediation Goals (PRG) for Residential Soil (EPA Region 9 PRG Tables, http://www.epa.gov/region09/waste/sfund/prg/S3_08.htm; 08/04/99).

The occurrence of Dinoseb and 2,4-D in the open Yard was in relatively low concentrations and was limited to three isolated sample locations (ARYC2, ARYC5, and ARYF0) and two sample locations (ARYF3 and ARYF4) in front of the entrances to the bays near the apparent source of the contamination (Bay #3).

The soil analytical results from open Yard samples collected in the areas where Dinoseb-contaminated soils were stockpiled were all below instrument quantitation limit, indicating that removal of the stockpiles was complete, with no evidence of residual contaminated soil left behind.

Two conclusions are drawn from the analytical results of confirmation soil samples collected from within the Open Storage bays: (1) soils contaminated with Dinoseb, 2,4-D, and 2,4,5-T at levels which would present a risk to human health were successfully excavated and removed from Bay #3, and (2) soils contaminated with 2,4-D or 2,4,5-T at levels which would present a risk to human health were not detected in the remaining bays.

6.0 RECOMMENDATIONS

Although the isolated occurrences of COCs in the Road Shop Yard appear to be residual and do not, by themselves, present a risk to human health, the vertical extent of these occurrences has been delineated only to a depth of less than one foot (except in Bay #3 where 18 to 20 inches of contaminated soil was excavated). While the likelihood of higher concentrations being discovered below one foot of depth is low, there remains uncertainty in that regard. Therefore, SECOR recommends that the following actions be taken to address the remaining uncertainty regarding vertical extent of residual contamination:

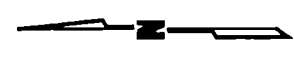
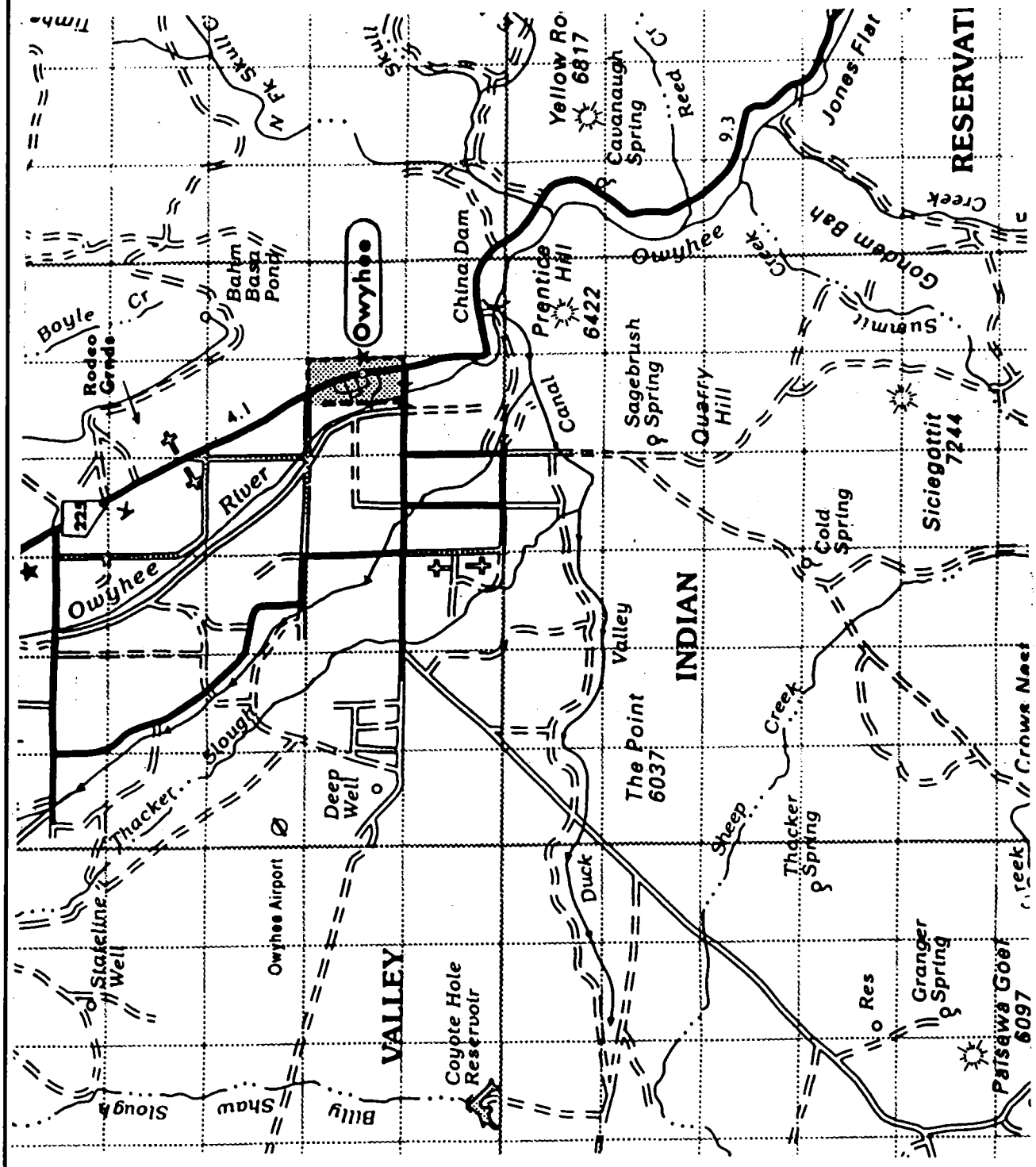
- 1) Discrete samples (already collected) be submitted for analysis at locations where residual contamination was located in the open Yard (ARYC2, ARYC5, ARYF1, and ARYF4). This task was verbally authorized by the BIA, and these samples are currently being analyzed.
- 2) Single excavations of approximately 24 to 36 inches be conducted at those four locations mentioned in (1) and in Bays #3 and #6.
- 3) Soil samples be collected from the bottom of the excavations mentioned in (2) and submitted for analysis to verify that the extent of residual contamination is limited to the near-surface soil and does not increase in concentration with depth.

Based on the surface soil analytical results relative to EPA PRG values for the contaminants of concern, SECOR further recommends that the Road Shop Yard be opened to allow access for BIA personnel. However, care should be taken by personnel within the Yard not to disturb the soil below 6 inches until the recommended vertical confirmation sampling and analysis is completed. SECOR believes that further swipe testing for Dinoseb does not need to be conducted on remaining equipment in the Yard for two reasons: (1) the vast majority of the Yard surface soil samples did not contain detectable levels of Dinoseb; and (2) all in-field Dinoseb swipe tests of machinery conducted during the Phase I investigation were negative for Dinoseb.

FIGURES

**FIGURES
AND
TABLES**

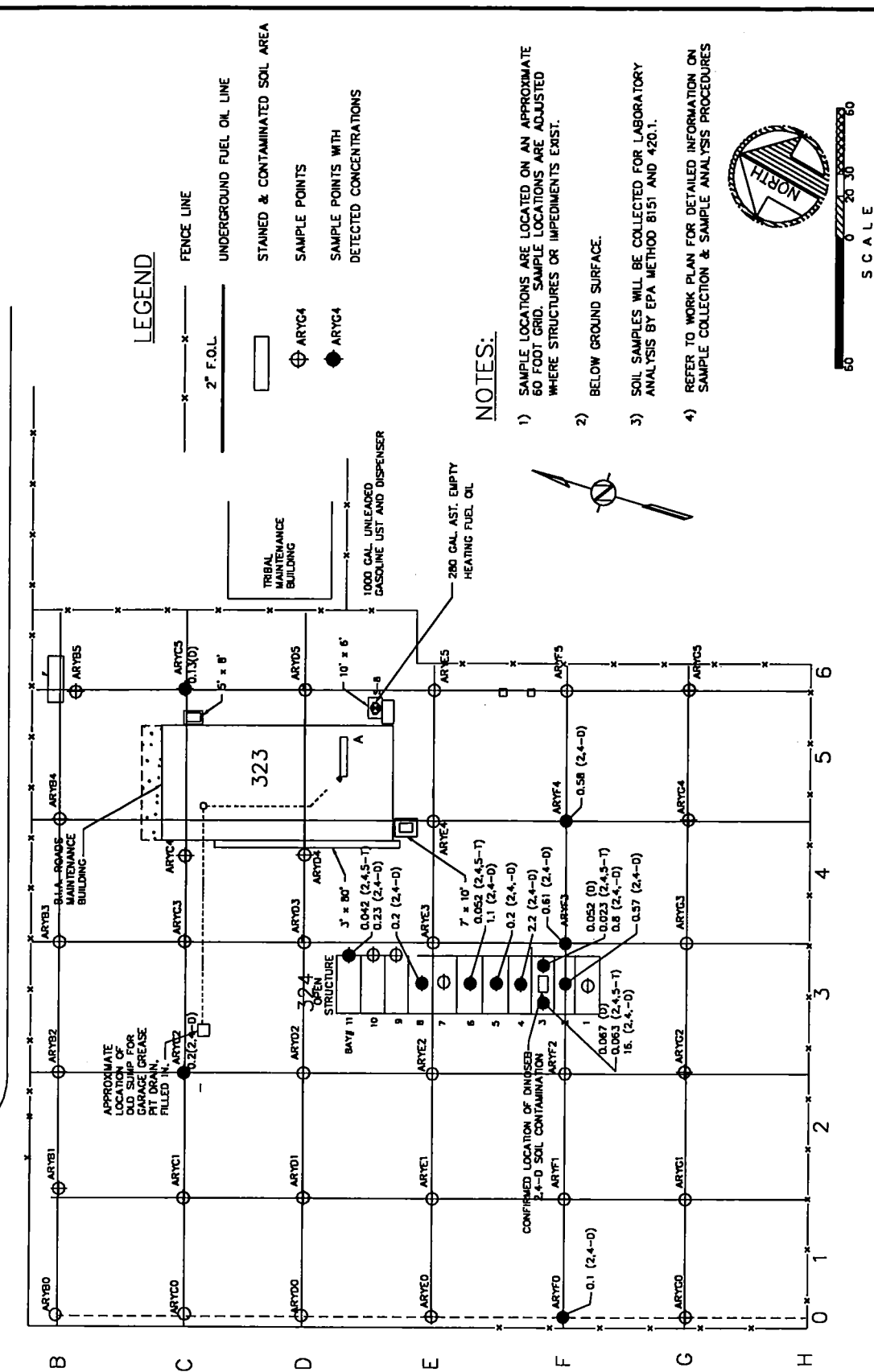
FIGURE 1
Site Vicinity Map



Not to Scale

<p>FIGURE: 1</p>	<p>SITE LOCATION MAP</p>	<p>SECOR INTERNATIONAL INCORPORATED 611 NORTH NEVADA STREET CARSON CITY, NEVADA 89703</p>
<p>DATE: 2/1/99</p>	<p>Duck Valley Indian Reservation Owyhee, Nevada</p>	
<p>PROJECT NO: 31024-001-01</p>		

FIGURE 2
Site Map with Soil Sampling Results



SECOR INTERNATIONAL INCORPORATED

1535 HOT SPRINGS ROAD, SUITE 3

CARSON CITY, NEVADA 89706

ROADS SHOP YARD

HAZARDOUS RESPONSE INVESTIGATION

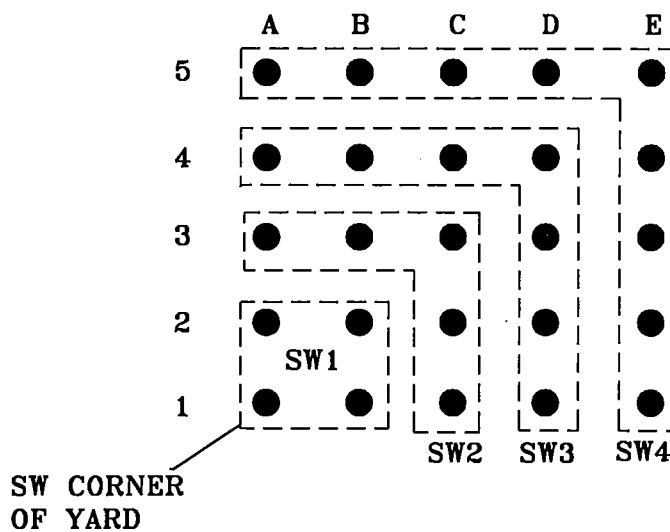
SOIL SAMPLING RESULTS

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
PHOENIX AREA OFFICE

FIGURE: 2

DATE: 10/20/99

PROJECT NO: 093.50350.500



LEGEND:
SW1@(depth)

● SOIL SAMPLE LOCATION

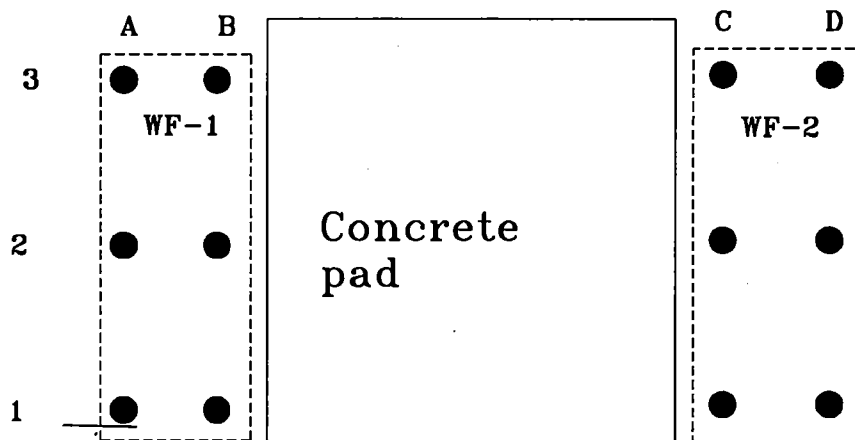
----- SURROUNDS COMPOSITED SOIL SAMPLES

APPROXIMATE SCALE: 1" = 10'

SECOR INTERNATIONAL
INCORPORATED
1535 HOT SPRINGS ROAD, SUITE 3
CARSON CITY, NEVADA 89706

SAMPLING PLAN
SOUTHWEST CORNER DUMPING AREA
ROADS SHOP YARD
DUCK VALLEY RESERVATION, OWYHEE, NEVADA

FIGURE: 3
DATE: 10/15/99
PROJECT NO: 093.50350.003



LEGEND:
WBA1@(depth)

● SOIL SAMPLE LOCATION

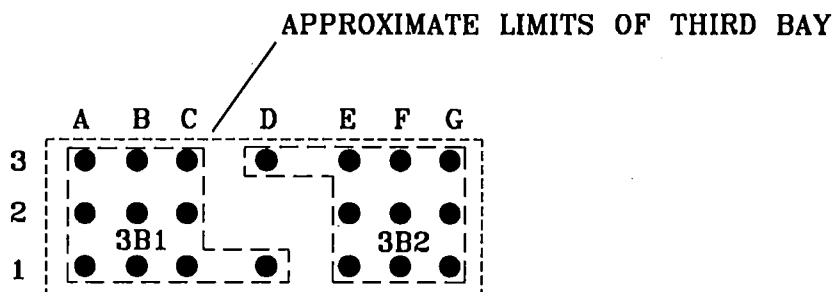
----- SURROUNDS COMPOSITED SOIL SAMPLES

APPROXIMATE SCALE: 1" = 10'

SECOR INTERNATIONAL
INCORPORATED
1535 HOT SPRINGS ROAD, SUITE 3
CARSON CITY, NEVADA 89706

SAMPLING PLAN
NORTH END OF MAINTENANCE BLDG.
ROADS SHOP YARD
DUCK VALLEY RESERVATION, OWYHEE, NEVADA

FIGURE: 4
DATE: 10/15/99
PROJECT NO: 093.50350.003



LEGEND:

3BA1@(depth)
 ● SOIL SAMPLE LOCATION

----- SURROUNDS COMPOSITED SOIL SAMPLES

APPROXIMATE SCALE: 1" = 10'

SECOR INTERNATIONAL
 INCORPORATED
 1535 HOT SPRINGS ROAD, SUITE 3
 CARSON CITY, NEVADA 89706

SAMPLING PLAN
 BAY #3, OPEN STORAGE STRUCTURE
 ROADS SHOP YARD
 DUCK VALLEY RESERVATION, OWYHEE, NEVADA

FIGURE: 5
 DATE: 10/15/99
 PROJECT NO: 093.50350.003

TABLES

**FIGURES
AND
TABLES**

TABLE 1
Soil Analytical Results: Dinoseb, 2,4-D, and 2,4,5-T

TABLE 1
COMPOSITE SOIL SAMPLE ANALYTICAL RESULTS
FOR DINOSEB, 2,4-D, AND 2,4,5-T
BIA Road Shop Yard
Duck Valley Reservation, Owyhee, Nevada

Sampling Area	Sample Location	Date	Depth bgs (ft)	Dinoseb (mg/kg)	2,4-D (mg/kg)	2,4,5-T (mg/kg)
Stockpiles	R-1	6/16/99	comp.	<0.170	<0.033	NA
	R-2	6/16/99	comp.	<700	520	NA
	R-3	6/16/99	comp.	<0.170	0.043	NA
	R-4	6/16/99	comp.	<500	2,900	NA
Open Yard Grid	ARYB0	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYB1	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYB2	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYB3	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYB4	9/15/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYB5	9/15/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYC0	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYC1	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYC2	9/16/99	0.3 - 0.9	<0.1	0.2	<0.04
	ARYC3	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYC4	9/15/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYC5	9/15/99	0.3 - 0.9	0.13	<0.2	<0.04
	ARYD0	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYD1	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYD2	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYD3	NS	NS	NS	NS	NS
	ARYD4	9/18/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYD5	9/15/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYE0	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYE1	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYE2	9/16/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYE3	9/18/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYE4	9/18/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYE5	9/15/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYF0	9/17/99	0.3 - 0.9	<0.1	0.1*	<0.04
	ARYF1	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYF2	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYF3	9/17/99	0.3 - 0.9	<0.1	0.61	<0.04
	ARYF4	9/18/99	0.3 - 0.9	<0.1	0.58	<0.04
	ARYF5	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYG0	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYG1	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYG2	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYG3	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYG4	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYG5	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYH0	NS	NS	NS	NS	NS
	ARYH1	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYH2	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYH3	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYH4	9/17/99	0.3 - 0.9	<0.1	<0.2	<0.04
	ARYH5	NS	NS	NS	NS	NS
Southwest corner of Yard	SW1	9/18/99	0.3 - 0.9	<0.1	<0.2	<0.04
	SW2	9/18/99	0.3 - 0.9	<0.1	<0.2	<0.04
	SW3	9/18/99	0.3 - 0.9	<0.1	<0.2	<0.04
	SW4	9/18/99	0.3 - 0.9	<0.1	<0.2	<0.04
North end of Maint. (Bldg # 324)	WF1	9/18/99	0.5	<0.1	<0.2	<0.04
	WF2	9/18/99	0.5	<0.1	<0.2	<0.04
Open Storage Bays (Bldg # 324)	BAY1	9/20/99	0.5	<0.1	<0.2	<0.04
	BAY2	9/20/99	0.5	<0.1	0.57	<0.04
	BAY3-01	9/18/99	1.5	0.067*	16	0.063
	BAY3-02	9/18/99	1.5	0.052*	0.8	0.023*
	BAY4	9/20/99	0.5	<0.1	2.2	<0.04
	BAY5	9/20/99	0.5	<0.1	0.2	<0.04
	BAY6	9/18/99	0.5	<0.1	1.1	0.052
	BAY7	9/18/99	0.5	<0.1	<0.2	<0.04
	BAY8	9/18/99	0.5	<0.1	0.2	<0.04
	BAY9	NS	NS	NS	NS	NS
	BAY10	NS	NS	NS	NS	NS
	BAY11	9/18/99	0.3	<0.1	0.23	0.042

Notes:

- 1) Composite soil samples are composed of 5 equal-volume discrete soil samples. Thus, a detected concentration in a composite sample could represent one, two, three, four, or all five discrete samples. As such, the composite samples are a qualitative means of identifying areas of impact.
- 2) NS: Not sampled because of obstructions or redundant sampling.
- 3) NA: Not analyzed for this constituent.
- 4) Analysis method: EPA 8151
- 5) Bold values indicate detected concentrations either greater than or less than quantitation limit.
- 6) * Estimated value. Actual value is below quantitation limit.

TABLE 2
Soil Analytical Results: Total Phenols

TABLE 2
COMPOSITE SOIL SAMPLE ANALYTICAL RESULTS
FOR TOTAL PHENOLS
BIA Road Shop Yard
Duck Valley Reservation, Owyhee, Nevada

Sampling Area	Sample Location	Date	Depth bgs (ft)	Total Phenols (mg/kg)
Open Yard Grid	ARYB0	9/16/99	0.3 - 0.9	<0.1
	ARYB1	9/16/99	0.3 - 0.9	<0.1
	ARYB2	9/16/99	0.3 - 0.9	<0.1
	ARYB3	9/16/99	0.3 - 0.9	<0.1
	ARYB4	9/15/99	0.3 - 0.9	<0.1
	ARYB5	9/15/99	0.3 - 0.9	<0.1
	ARYC0	9/16/99	0.3 - 0.9	<0.1
	ARYC1	9/16/99	0.3 - 0.9	<0.1
	ARYC2	9/16/99	0.3 - 0.9	<0.1
	ARYC3	9/16/99	0.3 - 0.9	<0.1
	ARYC4	9/15/99	0.3 - 0.9	<0.1
	ARYC5	9/15/99	0.3 - 0.9	<0.1
	ARYD0	9/16/99	0.3 - 0.9	<0.1
	ARYD1	9/16/99	0.3 - 0.9	<0.1
	ARYD2	9/16/99	0.3 - 0.9	<0.1
	ARYD3	NS	NS	NS
	ARYD4	9/18/99	0.3 - 0.9	<0.1
	ARYD5	9/15/99	0.3 - 0.9	<0.1
	ARYE0	9/17/99	0.3 - 0.9	<0.1
	ARYE1	9/17/99	0.3 - 0.9	<0.1
	ARYE2	9/16/99	0.3 - 0.9	<0.1
	ARYE3	9/18/99	0.3 - 0.9	<0.1
	ARYE4	9/18/99	0.3 - 0.9	<0.1
	ARYE5	9/15/99	0.3 - 0.9	<0.1
	ARYF0	9/17/99	0.3 - 0.9	<0.1
	ARYF1	9/17/99	0.3 - 0.9	<0.1
	ARYF2	9/17/99	0.3 - 0.9	<0.1
	ARYF3	9/17/99	0.3 - 0.9	<0.1
	ARYF4	9/18/99	0.3 - 0.9	<0.1
	ARYF5	9/17/99	0.3 - 0.9	<0.1
	ARYG0	9/17/99	0.3 - 0.9	<0.1
	ARYG1	9/17/99	0.3 - 0.9	<0.1
	ARYG2	9/17/99	0.3 - 0.9	<0.1
	ARYG3	9/17/99	0.3 - 0.9	<0.1
	ARYG4	9/17/99	0.3 - 0.9	<0.1
	ARYG5	9/17/99	0.3 - 0.9	<0.1
Southwest corner of Yard	ARYH0	NS	NS	NS
	ARYH1	9/17/99	0.3 - 0.9	<0.1
	ARYH2	9/17/99	0.3 - 0.9	<0.1
	ARYH3	9/17/99	0.3 - 0.9	<0.1
	ARYH4	9/17/99	0.3 - 0.9	<0.1
	ARYH5	NS	NS	NS
	SW1	9/18/99	0.3 - 0.9	<0.1
	SW2	9/18/99	0.3 - 0.9	<0.1
	SW3	9/18/99	0.3 - 0.9	<0.1
	SW4	9/18/99	0.3 - 0.9	<0.1
North end of Maint. (Bldg # 324)	WF1	9/18/99	0.5	<0.1
	WF2	9/18/99	0.5	<0.1
Open Storage Bays (Bldg # 324)	BAY1	9/20/99	0.5	<0.1
	BAY2	9/20/99	0.5	<0.1
	BAY3-01	9/18/99	1.5	<0.1
	BAY3-02	9/18/99	1.5	<0.1
	BAY4	9/20/99	0.5	<0.1
	BAY5	9/20/99	0.5	<0.1
	BAY6	9/18/99	0.5	<0.1
	BAY7	9/18/99	0.5	<0.1
	BAY8	9/18/99	0.5	<0.1
	BAY9	NS	NS	NS
	BAY10	NS	NS	NS
	BAY11	9/18/99	0.3	<0.1

Notes:

- 1) Composite soil samples are composed of 5 equal-volume discrete soil samples. Thus, a detected concentration in a composite sample could represent one, two, three, four, or all five discrete samples. As such, the composite samples are a qualitative means of identifying areas of impact.
- 2) NS: Not sampled because of obstructions or redundant sampling.
- 3) NA: Not analyzed for this constituent.
- 4) Analysis method: EPA 420.1

APPENDIX A

***SITE CHARACTERIZATION
QUALITY ASSURANCE SAMPLING PLAN
BUREAU OF INDIAN AFFAIRS
ROADS SHOP FACILITY
DUCK VALLEY INDIAN RESERVATION
OWYHEE, ELKO COUNTY, NEVADA***

August 25, 1999

Secor job # 093.50350.003

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Table 2	Sampling Equipment
Table 3	Sample Identifications and Location
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Table 5	Analytical Methods and QA/QC Requirements

FIGURES

- Figure A-1 Sampling Plan – Third Bay
- Figure A-2 Sampling Plan - Southwest Corner Dumping Area
- Figure A-3 Sampling Plan – Water Faucet N of Building 323
- Figure A-4 Sampling Plan – Suspected Wood Treating Area

1.0 BACKGROUND

A remedial investigation (RI) is to be conducted at the Roads Yard Shop (site) of the Duck Valley Indian Reservation in Owyhee, Elko County, Nevada (Figure 1, Site Location Map). The Duck Valley Indian Reservation consists of approximately 289,819 acres and is home to the Shoshone-Paiute Tribes. Owyhee is located west of Highway 225, approximately 82 miles south of Mountain Home, Idaho and 87 miles northwest of Elko, Nevada. Previous investigations have been conducted to evaluate potential petroleum hydrocarbon contamination at the site related to various underground storage tanks and a fuel oil pipeline located in the northeastern portion of the site. In the course of performing these investigations, yellow substances were identified in soils within storage bays at the site. The yellow substances have been identified as Dinoseb and 2,4-Dichlorophenoxyacetic Acid (2,4-D). Upon confirmation of the presence of Dinoseb and 2,4-D, access to the road yard was restricted with minimum Level C personal protective equipment (PPE) requirements.

The presence of the compounds prompted further investigation by the Bureau of Indian Affairs (BIA) into historic use of these substances and potential contaminants at the site. Based on discussions with Roads Yard Shop and BIA personnel, 2,4,5-trichlorophenoxyacetic acid (2,4,5-T) was also stored at the site. Additionally, an area was identified where wood treatment chemicals including Cresol may have been used.

2.0 PROJECT OBJECTIVE

SECOR has been tasked to conduct surface and subsurface soil sampling, and groundwater sampling within the Owyhee Road Yard compound on the Duck Valley Indian Reservation, Elko County, Nevada. The project objectives are as follows:

- (1) Identify locations of soil and/or groundwater contaminated with the herbicides Dinoseb; 2,4-D; and 2,4,5-T; a wood-treating chemical, cresol; and other potential contaminants;
- (2) Delineate the extent of potential soil and groundwater impact; and
- (3) Collect sufficient data to quantify impacted soil volumes and evaluate remedial alternatives.

These objectives will be achieved in two stages:

- Phase 1 will consist of collection of shallow soil samples throughout the Road Yard to identify locations that require further investigation; and
- Phase 2 will consist of detailed characterization of the areas identified in Phase 1.

As part of the Phase 1 investigation, waste characterization samples will be collected from soil stockpiles created from the excavation in which Dinoseb was discovered on June 9, 1999.

3.0 DATA USE OBJECTIVES

The data obtained during this assessment will be used to determine the necessity and scope of a remedial action. Data use objectives include:

- (1) Estimate the horizontal and vertical extent of surface and subsurface contamination to a depth of up to 15 feet (*groundwater level*);
- (2) Determine if Dinoseb and/or pesticide contamination is present in the drinking water and/or has reached groundwater (*15 feet below ground surface*); and
- (3) Collect sufficient data to perform an evaluation of human health or environmental risk.

4.0 QUALITY ASSURANCE (QA) OBJECTIVES

In order to fulfill the objectives outlined in Section 2.0, the following samples with their associated Quality Assurance (QA) parameters will be collected. The quality assurance objectives for this assessment are listed in Table 1, below:

Table 1
Quality Assurance Objectives

CHEMICAL PARAMETER(S)	MATRIX	DATA USE	QA OBJECTIVE
DINOSEB AND 2,4-D BY EPA METHOD 8150	SOIL	SITE CHARACTERIZATION	DEFINITIVE
DINOSEB AND 2,4-D BY EPA METHOD 8150	WATER	SITE CHARACTERIZATION	DEFINITIVE
PHENOLS + CRESOL BY EPA METHOD 8041	SOIL	SITE CHARACTERIZATION	DEFINITIVE
PHENOLS + CRESOL BY EPA METHOD 8041	WATER	SITE CHARACTERIZATION	DEFINITIVE

NOTE: Section 7.0 gives a detailed explanation of QA requirements.

5.0 APPROACH AND SAMPLING METHODOLOGIES

5.1 SAMPLING EQUIPMENT

The following equipment will be utilized to collect soil samples:

Table 2
Sampling Equipment

MATRIX	PARAMETER	SAMPLING EQUIPMENT	FABRICATION	DEDICATED?
SOIL	DINOSEB, 2,4-D, 2,4,5-T BY EPA METHOD 8150 PHENOLS + CRESOL BY EPA METHOD 8041	HAND AUGER	STAINLESS STEEL	NO
		TROWEL	STAINLESS STEEL	NO
		COMPOSITING BUCKETS	CARBOARD	YES
		2 4-OUNCE JARS	GLASS	YES
		GEOPROBE	STEEL	NO
		GEOPROBE LINER	PLASTIC	YES
WATER	DINOSEB, 2,4-D, 2,4,5-T BY EPA METHOD 8150 PHENOLS + CRESOL BY EPA METHOD 8041	GEOPROBE	STEEL	NO
		TUBING	PLASTIC	NO
		40-ML VOA's	GLASS	YES
WASTE	DINOSEB, 2,4-D, 2,4,5-T BY EPA METHOD 8150 PHENOLS + CRESOL BY EPA METHOD 8041 WASTE DISPOSAL PROFILE	TROWEL	STAINLESS STEEL	NO
		8-OUNCE SAMPLE JAR	GLASS	YES
		SAMPLE BOTTLES	GLASS/PLASTIC	YES

5.2 SAMPLE COLLECTION

Sample collection methods are described in the following sections. Methods for collecting shallow soil samples, Geoprobe soil and water samples and waste characterization samples are included.

5.2.1 Phase 1 - Shallow Screening Soil Samples

Unbiased shallow soil sample locations are positioned on a 50-foot grid across the Road Yard site. Soil sampling locations are shown in Figure 2. Where structures and impediments are encountered, the 50-foot grid will be adjusted to the nearest unobstructed location. Soil samples will be collected from depths of 0 to 2 feet below ground surface. These samples are expected to be within the vertical zone of impact.

A sample will be collected from each grid intersection location and locations 17 feet north, south east and west of each intersection. Two soil samples will be collected from each of the five locations. One of the samples from each location will be used to make a composite sample. The other samples will be reserved pending laboratory analytical results from the composite sample. If the sample is near a fence or structure, four samples will be composited, as applicable.

In addition, a composite sample from each bay will be collected and will include soil from a distance of 5 feet east of each bay.

Field Screening. Soil samples collected from the soil sample locations will be field screened with a Flame Ionization Detector (FID). Selected samples will also be analyzed using colorimetric strips to test pH. All measured readings will be recorded as appropriate in the field log book or on the appropriate field sampling form. Additionally, all samples will be examined visually and observations recorded in the field sampling form.

Analytical Program. The samples will be submitted to the analytical laboratory for analysis of Dinoseb, 2,4-D and 2,4,5-T, and Cresol and other phenolic compounds. A summary of soil sample identification numbers and analysis is presented in Table 3 in Section 5.6.

Four additional sampling areas have been identified where Dinoseb, 2,4-D, 2,4,5-T and Cresol are reported to have been used on-site. These areas are 1) the third bay, 2) the southwest corner of the Roads Yard, 3) the water faucet on the north site of Building 323, and 4) an area located northwest of the bays. Discrete soil samples will be collected from all sample locations and reserved pending analysis of composite soil samples.

5.2.1.1 Third Bay

Dinoseb contamination was identified in the third bay during petroleum hydrocarbon investigations. Two soil samples will be collected from the area surrounding the former excavation on a five foot grid and composited as shown in Figure A-1.

5.2.1.2 Southwest Corner of the Roads Yard

The southwest corner of the roads yard is reported to be an area where excess Dinoseb and 2,4-D are reported to have been disposed. A total of four composite soil samples will be collected from this area. Soil samples will be collected starting from the southwest corner of the yard, and extending out along five foot radii, as shown in Figure A-2.

5.2.1.3 Water Faucet North of Building 323

The water faucet north of Building 323 is reported to be an area where Dinoseb and 2,4-D were mixed prior to use. A total of four composite soil samples will be collected from this area. Soil

samples will be collected starting from the faucet, and extending out along five foot radii, as shown in Figure A-3.

5.2.1.4 Area Northwest of Bays

An area northwest of the bays is reported to have been a former location for use of wood treating chemicals, including Cresol. An area approximately 50 feet square will be sampled on a 5-foot grid. A total of four composite soil samples will be collected, one from each quarter of the area (Figure A-4), and submitted for laboratory analysis.

5.2.2 Phase 2 – Geoprobe Investigation

Phase 2 of the site characterization will involve use of a Geoprobe. The locations to be investigated will include the four suspected release areas described in Section 5.2.1 and other areas identified during Phase 1. Soil samples will be collected from a minimum of one soil boring in each identified area from a depth of approximately 3 to 5 feet, 10- feet and approximately 14 feet. Groundwater is expected to occur within 15 feet of ground surface. Groundwater samples will be collected from borings where it is encountered. An addendum to the workplan may be submitted following Phase 1.

5.2.3 Waste Characterization Sampling

Waste characterization samples will be collected from existing soil stockpiles in the Roads Yard to determine whether the soil is hazardous or nonhazardous waste. A minimum of one composite soil sample will be collected from each stockpile, depending on the size of the stockpile.

5.3 SAMPLE PROCEDURES

Sampling procedures for shallow screening soil samples, Geoprobe soil samples and waste characterization soil samples are described in the following sections.

5.3.1 Shallow Screening Soil Samples

A stainless steel hand auger may be used to dig down to the desired sampling depths, typically between one and three feet below ground surface. Discrete shallow soil samples will be collected with clean trowels. The sample will then be placed in an 8-ounce jar and labeled according to Section 5.6. Composite soil samples will be collected with a clean trowel and the soil from each location will be placed into a clean cardboard bucket. The soil sample will be composited in the bucket and then transferred to a clean 8-ounce sample jar and labeled according to Section 5.6. Samples to be sent to the analytical laboratory and will be handled as described in Section 5.7.

5.3.2 Geoprobe Soil Samples

A Geoprobe will be used to advance a steel tube lined with plastic into the subsurface. Samples will be recovered from the desired depths in the plastic liner for field analysis. Soil samples will be collected from the plastic liner, transferred to 8-ounce glass sample jars and sealed and labeled in accordance with Section 5.6. Samples to be sent to the analytical laboratory will be handled as described in Section 5.7.

5.3.3 Waste Characterization Samples

Waste characterization samples will be collected using a clean trowel to collect soil from various locations in the stockpile. The soil will be composited in a clean cardboard bucket, transferred to 8-ounce sample jars and labeled in accordance with Section 5.6. Samples to be sent to the analytical laboratory will be handled as described in Section 5.7.

5.4 CONFIRMATORY LABORATORY ANALYSIS

Confirmatory laboratory analysis of soil samples will be performed in accordance with Table 3. Variations from the analyses outlined in Table 3 will be logged on laboratory analysis variance forms (*Appendix C*).

5.5 FIELD QA SAMPLES

Field Duplication. Field duplicate samples will be collected during the assessment to determine the total precision of the sampling methodology as well as the variability in obtaining samples that represent one sampling point. Field duplicates should be collected so that they represent the sampled matrix as closely as possible. One field duplicate per ten soil samples will be collected and submitted for laboratory analysis.

Trip Blanks. Trip blanks monitor for contamination due to handling, transport, contact with other samples during storage, or lab error. A VOC set filled with organic-free water is prepared and supplied by the laboratory. This trip blank set is taken to the field, labeled with company name, date, and cooler ID, and stored with other samples until they are delivered for analysis to the laboratory. Trip blanks are not opened in the field. One trip blank set per cooler of samples should be submitted for laboratory analysis of volatile organic compounds (*VOCs*).

Temperature Blanks. Temperature blanks are used to monitor the temperature inside sample coolers. Temperature blanks outside of acceptable limits (2° to 6°C) are an indication of unacceptable sample preservation, and may require resampling. The laboratory prepares a temperature blank by filling VOA vials with organic-free water and sealing the vial with a Teflon-lined lid. The temperature blank is then carried to the field, placed in the sample cooler prior to sample collection, and accompanies the samples in the sample cooler from the field to the laboratory, where the temperature of the sample is measured by the laboratory and recorded in the sample log-in form. Temperature blanks will accompany soil and water samples.

5.6 SAMPLE IDENTIFICATION

Table 3, below, outlines how each sample will be identified:

Table 3
Sample Identification And Location

Sample ID No.	Matrix	Analysis
ARYB2(0-2)	SOIL	EPA 8150, 8041
ARYB3(0-2)	SOIL	EPA 8150, 8041
ARYB4(0-2)	SOIL	EPA 8150, 8041
ARYB5(0-2)	SOIL	EPA 8150, 8041
ARYC1(0-2)	SOIL	EPA 8150, 8041
ARYC2(0-2)	SOIL	EPA 8150, 8041
ARYC3(0-2)	SOIL	EPA 8150, 8041
ARYC4(0-2)	SOIL	EPA 8150, 8041
ARYC5(0-2)	SOIL	EPA 8150, 8041
ARYD1(0-2)	SOIL	EPA 8150, 8041
ARYD2(0-2)	SOIL	EPA 8150, 8041
ARYD3(0-2)	SOIL	EPA 8150, 8041
ARYD4(0-2)	SOIL	EPA 8150, 8041
ARYD5(0-2)	SOIL	EPA 8150, 8041
ARYE1(0-2)	SOIL	EPA 8150, 8041
ARYE2(0-2)	SOIL	EPA 8150, 8041
ARYE3(0-2)	SOIL	EPA 8150, 8041
ARYE4(0-2)	SOIL	EPA 8150, 8041
ARYE5(0-2)	SOIL	EPA 8150, 8041
ARYF1(0-2)	SOIL	EPA 8150, 8041
ARYF2(0-2)	SOIL	EPA 8150, 8041
ARYF3(0-2)	SOIL	EPA 8150, 8041
ARYF4(0-2)	SOIL	EPA 8150, 8041
ARYF5(0-2)	SOIL	EPA 8150, 8041
ARYG1(0-2)	SOIL	EPA 8150, 8041
ARYG2(0-2)	SOIL	EPA 8150, 8041
ARYG3(0-2)	SOIL	EPA 8150, 8041
ARYG4(0-2)	SOIL	EPA 8150, 8041
ARYG5(0-2)	SOIL	EPA 8150, 8041
ARYH0(0-2)	SOIL	EPA 8150, 8041
ARYH1(0-2)	SOIL	EPA 8150, 8041
ARYH2(0-2)	SOIL	EPA 8150, 8041
ARYH3(0-2)	SOIL	EPA 8150, 8041
ARYH4(0-2)	SOIL	EPA 8150, 8041
ARYH5(0-2)	SOIL	EPA 8150, 8041
BAY1	SOIL	EPA 8150, 8041
BAY2	SOIL	EPA 8150, 8041
BAY4	SOIL	EPA 8150, 8041
BAY5	SOIL	EPA 8150, 8041
BAY6	SOIL	EPA 8150, 8041
BAY7	SOIL	EPA 8150, 8041
BAY8	SOIL	EPA 8150, 8041
BAY9	SOIL	EPA 8150, 8041

BAY10	SOIL	EPA 8150, 8041
BAY11	SOIL	EPA 8150, 8041
3BA1(0-2)	SOIL	EPA 8150, 8041
3BA2(0-2)	SOIL	EPA 8150, 8041
3BA3(0-2)	SOIL	EPA 8150, 8041
3BB1(0-2)	SOIL	EPA 8150, 8041
3BB2(0-2)	SOIL	EPA 8150, 8041
3BB3(0-2)	SOIL	EPA 8150, 8041
3BC1(0-2)	SOIL	EPA 8150, 8041
3BC2(0-2)	SOIL	EPA 8150, 8041
3BC3(0-2)	SOIL	EPA 8150, 8041
3BD1(0-2)	SOIL	EPA 8150, 8041
3BD2(0-2)	SOIL	EPA 8150, 8041
3BD3(0-2)	SOIL	EPA 8150, 8041
3BE1(0-2)	SOIL	EPA 8150, 8041
3BE2(0-2)	SOIL	EPA 8150, 8041
3BE3(0-2)	SOIL	EPA 8150, 8041
3BF1(0-2)	SOIL	EPA 8150, 8041
3BF2(0-2)	SOIL	EPA 8150, 8041
3BF3(0-2)	SOIL	EPA 8150, 8041
3BG1(0-2)	SOIL	EPA 8150, 8041
3BG2(0-2)	SOIL	EPA 8150, 8041
3BG3(0-2)	SOIL	EPA 8150, 8041
SWA1(0-2)	SOIL	EPA 8150, 8041
SWA2(0-2)	SOIL	EPA 8150, 8041
SWA3(0-2)	SOIL	EPA 8150, 8041
SWA4(0-2)	SOIL	EPA 8150, 8041
SWA5(0-2)	SOIL	EPA 8150,8041
SWB1(0-2)	SOIL	EPA 8150, 8041
SWB2(0-2)	SOIL	EPA 8150, 8041
SWB3(0-2)	SOIL	EPA 8150, 8041
SWB4(0-2)	SOIL	EPA 8150, 8041
SWB5(0-2)	SOIL	EPA 8150,8041
SWC1(0-2)	SOIL	EPA 8150, 8041
SWC2(0-2)	SOIL	EPA 8150, 8041
SWC3(0-2)	SOIL	EPA 8150, 8041
SWC4(0-2)	SOIL	EPA 8150, 8041
SWC5(0-2)	SOIL	EPA 8150,8041
SWD1(0-2)	SOIL	EPA 8150, 8041
SWD2(0-2)	SOIL	EPA 8150, 8041
SWD3(0-2)	SOIL	EPA 8150, 8041
SWD4(0-2)	SOIL	EPA 8150, 8041
SWD5(0-2)	SOIL	EPA 8150,8041
SWE1(0-2)	SOIL	EPA 8150, 8041
SWE2(0-2)	SOIL	EPA 8150, 8041
SWE3(0-2)	SOIL	EPA 8150, 8041
SWE4(0-2)	SOIL	EPA 8150, 8041

SWE5(0-2)	SOIL	EPA 8150,8041
WFA1(0-2)	SOIL	EPA 8150, 8041
WFA2(0-2)	SOIL	EPA 8150, 8041
WFA3(0-2)	SOIL	EPA 8150,8041
WFB1(0-2)	SOIL	EPA 8150, 8041
WFB2(0-2)	SOIL	EPA 8150, 8041
WFB3(0-2)	SOIL	EPA 8150,8041
WFB4(0-2)	SOIL	EPA 8150, 8041
WFC1(0-2)	SOIL	EPA 8150, 8041
WFCB2(0-2)	SOIL	EPA 8150, 8041
WFC3(0-2)	SOIL	EPA 8150,8041
WFC4(0-2)	SOIL	EPA 8150, 8041
WFC5(0-2)	SOIL	EPA 8150, 8041
WFD1(0-2)	SOIL	EPA 8150, 8041
WFD2(0-2)	SOIL	EPA 8150, 8041
WFD3(0-2)	SOIL	EPA 8150,8041
WFD4(0-2)	SOIL	EPA 8150, 8041
WFE1(0-2)	SOIL	EPA 8150, 8041
WFE2(0-2)	SOIL	EPA 8150, 8041
WFE3(0-2)	SOIL	EPA 8150,8041
WTA1(0-2)	SOIL	EPA 8150, 8041
WTA2(0-2)	SOIL	EPA 8150,8041
WTA3(0-2)	SOIL	EPA 8150, 8041
WTA4(0-2)	SOIL	EPA 8150, 8041
WTA5(0-2)	SOIL	EPA 8150, 8041
WTA6(0-2)	SOIL	EPA 8150,8041
WTB1(0-2)	SOIL	EPA 8150, 8041
WTB2(0-2)	SOIL	EPA 8150,8041
WTB3(0-2)	SOIL	EPA 8150, 8041
WTB4(0-2)	SOIL	EPA 8150, 8041
WTB5(0-2)	SOIL	EPA 8150, 8041
WTB6(0-2)	SOIL	EPA 8150,8041
WTC1(0-2)	SOIL	EPA 8150, 8041
WTC2(0-2)	SOIL	EPA 8150,8041
WTC3(0-2)	SOIL	EPA 8150, 8041
WTC4(0-2)	SOIL	EPA 8150, 8041
WTC5(0-2)	SOIL	EPA 8150, 8041
WTC6(0-2)	SOIL	EPA 8150,8041
WTD1(0-2)	SOIL	EPA 8150, 8041
WTD2(0-2)	SOIL	EPA 8150,8041
WTD3(0-2)	SOIL	EPA 8150, 8041
WTD4(0-2)	SOIL	EPA 8150, 8041
WTD5(0-2)	SOIL	EPA 8150, 8041
WTD6(0-2)	SOIL	EPA 8150,8041
WTE1(0-2)	SOIL	EPA 8150, 8041
WTE2(0-2)	SOIL	EPA 8150,8041
WTE3(0-2)	SOIL	EPA 8150, 8041

WTE4(0-2)	SOIL	EPA 8150, 8041
WTE5(0-2)	SOIL	EPA 8150, 8041
WTE6(0-2)	SOIL	EPA 8150, 8041
WTF1(0-2)	SOIL	EPA 8150, 8041
WTF2(0-2)	SOIL	EPA 8150, 8041
WTF3(0-2)	SOIL	EPA 8150, 8041
WTF4(0-2)	SOIL	EPA 8150, 8041
WTF5(0-2)	SOIL	EPA 8150, 8041
WTF6(0-2)	SOIL	EPA 8150, 8041
WASTE PROFILE	SOIL	EPA 8150, 8041

5.7 SAMPLE EQUIPMENT DECONTAMINATION

SECOR will utilize the following decontamination procedure for hand augers and trowels.

- (1) Alconox
- (2) Clean water rinse
- (3) Deionized water rinse
- (4) Air dry

5.8 SAMPLE HANDLING AND SHIPMENT

Field samples collected in 8-ounce jars will be stored on-site while awaiting screening. Confirmatory samples will be placed into two 4-ounce jars, and labeled according to Section 5.6. Caps will be secured with custody seals. Sealed jars will be encased in bubble wrap, and placed in metal or plastic coolers. Ice will be sealed in collection bags and also placed in the coolers. Table 4, below, lists relevant sample-handling information.

Table 4
Sample Containers and Preservation Methods

MATRIX	ANALYSIS	CONTAINER	PRESERVATION	HOLDING TIME
SOIL	DINOSEB AND 2,4-D BY EPA METHOD 8150	8-OUNCE JAR	4°C, COOL	14 DAYS UNTIL EXT., 40 DAYS AFTER
SOIL	PHENOLS + CRESOL BY EPA METHOD 8041	8-OUNCE JAR	4°C, COOL	14 DAYS UNTIL EXT., 40 DAYS AFTER
WASTE	PROFILE	8-OUNCE JAR	4°C, COOL	14 DAYS

A chain-of-custody form will be completed as described in Section 5.9, placed in a plastic bag, and affixed to the underside of each cooler lid. The lid will be sealed and affixed on at least two sides with custody seals so that any sign of tampering will be clearly visible.

5.9 SAMPLE DOCUMENTATION

All sample documents will be completed legibly, in ink. Any corrections or revisions will be made by lining through the incorrect entry and by initialing the error.

Field Logbook. The field logbook is essentially a descriptive notebook detailing the site activities and observations so that an accurate account of field procedures can be reconstructed in the writer's absence. All entries will be dated and signed by the individuals making the entries, and will include the following:

- (1) Site name and project number
- (2) Names of personnel on site
- (3) Dates and times of all entries (*military time preferred*)
- (4) Descriptions of all site activities, including site entry and exit times
- (5) Noteworthy events and discussions
- (6) Weather conditions
- (7) Site observations
- (8) Identification and description of samples and locations
- (9) Subcontractor information and names of on-site personnel
- (10) Date and time of sample collections, along with chain-of-custody information
- (11) Record of photographs
- (12) Site sketches

Sample Labels. Sample labels will clearly identify the particular samples, and should include the following:

- (1) Site name and number
- (2) Time and date sample was taken
- (3) Sample preservation

(4) Analysis requests.

Optional but pertinent information is the sample location and sampling personnel.

Sample labels will be securely affixed to the sample container.

Chain-of-Custody Records. A Chain-of-Custody Record will be maintained from the time the sample is taken to its final disposition. Every transfer of custody must be noted and signed for, and a copy of this record kept by each individual who has signed. When samples (*or groups of samples*) are not under the direct control of the individual responsible for them, they must be stored in a locked container sealed with a Custody Seal.

The Chain of Custody record should, at a minimum, include the following:

- (1) Sample identification number
- (2) Sample information
- (3) Sample location
- (4) Sample date
- (5) Name(s) and signature(s) of sampler(s)
- (6) Signature(s) of any individual(s) with control over the samples

Custody Seals. Custody Seals demonstrate that a sample container has not been tampered with or opened. The individual in possession of the sample(s) will sign and date the seal, affixing it in such a manner that the container cannot be opened without breaking the seal. The name of this individual, along with a description of the sample packaging and the Custody Seal Number, if applicable, will be noted in the field logbook.

6.0 ANALYTICAL METHODS AND PROCEDURES

6.1 CONFIRMATORY ANALYSIS

Confirmatory soil and water samples will be sent to the EPA Region IX analytical laboratory for analysis of Dinoseb, 2,4-D, and 2,4,5-T by EPA Method 8151, and Cresol and other phenolic compounds by EPA Method 8041. Confirmatory samples will be analyzed as indicated in Table 3. The PM will select five percent (5%) of the samples for matrix spike duplicates and ten percent (10%) of the samples submitted will be field duplicates. The deliverables guidelines for the analyses by the laboratory are contained in Appendix A.

Table 5, below, summarizes the required analytical methods and QA/QC parameters:

Table 5
Analytical Methods and QA/QC Requirements

ANALYTICAL METHOD	REQUIRED DETECTION LIMIT	MATRIX SPIKE AND SPIKE DUPLICATE	FIELD DUPLICATE	EQUIPMENT BLANK
EPA SW-846 METHOD 8151	55 mg/kg ¹	1 EVERY 20 SAMPLES	1 EVERY 10 SAMPLES	1 PER DAY
EPA SW-846 METHOD 8041	200 mg/kg ²	1 EVERY 20 SAMPLES	1 EVERY 10 SAMPLES	1 PER DAY

mg/kg = milligrams per kilogram (parts per million equivalent)

¹ From: Preliminary Remediation Goal, 1996, U.S. EPA Region IX

² From: 40CFRCh. 1, §261.24, Table 1 – Maximum Concentration of Contaminants for the Toxicity Characteristic

7.0 WASTE DISPOSAL

Existing stockpiles at the site will be sampled and characterized as hazardous or nonhazardous prior to disposal. Soils containing Dinoseb in concentrations greater than 55 milligrams per kilogram (mg/kg, parts per million equivalent) will be classified as P-listed hazardous waste. Hazardous waste will be loaded using a backhoe into trucks for transportation to EnviroSafe's facility located in Boise, Idaho. The hazardous waste will be disposed of by incineration. Nonhazardous waste will be transported to Safety Kleen's facility in Aragonite, Utah for disposal.

8.0 QUALITY ASSURANCE REQUIREMENTS

The following requirements apply to the respective QA Objectives and Parameters identified in Section 6.0, and apply to analyses performed by the assessment team and laboratories:

Screening Data. The following QA protocols for screening data are applicable to all sample matrices, and include:

- (1) Provide sample documentation in the form of field logbooks and appropriate field data sheets. Chain-of-Custody Records are optional for field screening locations.
- (2) All instrument calibration and/or performance check procedures/methods will be summarized and documented in the field/personal or instrument logbook.
- (3) The detection limit will be determined and recorded, along with the data, where appropriate.
- (4) Analytical error determination in the form of replicate samples must be performed on at least one sample per batch.

Definitive Data. The following QA protocols for definitive data are applicable to all sample matrices, and include:

- (1) Provide sample documentation in the form of field logbooks and appropriate field data sheets. Chain-of-Custody Records are optional for field screening locations.
- (2) Initial and continuing calibrations will be documented.
- (3) The detection limit will be determined and recorded, along with the data, where appropriate.
- (4) Analytes will be identified and quantified.
- (5) QC blanks will be analyzed.
- (6) Matrix spike recoveries will be documented.
- (7) Analytical error determination in the form of replicate samples must be performed on ten percent of the samples.
- (8) Total measurement error documenting the precision of the measurement system from sample acquisition through analysis will be determined.

APPENDIX B

HEALTH AND SAFETY PLAN
SOIL STABILIZATION PROJECT

DUCK VALLEY INDIAN RESERVATION
Owyhee, Nevada

Submitted by:
SECOR International Incorporated
611 North Nevada Street
Carson City, NV 89703

Original Date: June 16, 1999

SECOR Project No.

SECOR
HEALTH AND SAFETY PLAN
REVIEW AND APPROVAL

CLIENT: EPA Region 9 Office, Water Division and the BIA,
Phoenix Area Office

SITE NAME: Duck Valley Indian Reservation,
Owyhee, Nevada

PROJECT NAME: Duck Valley Indian Reservation

PROJECT NUMBER: _____

START DATE: June 16, 1999

END DATE: November, 1999

PLAN EXPIRATION DATE: November, 1999

Philip A. Platcow, CIH
Plan Completed By

Signature: _____

Date: _____

Doug Martin
Project Manager

Signature: _____

Date: _____

Todd Leonard
Health and Safety Coordinator

Signature: _____

Date: _____

This Health and Safety Plan has been written for the use of *SECOR* and its employees. It may also be used as a guidance document by properly trained and experienced *SECOR* subcontractors. However, *SECOR* does not guarantee the health or safety of any person entering this site.

Due to the potential hazardous nature of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards, which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this Plan were prepared specifically for this site and should not be used on any other site without prior research by trained health and safety specialists.

SECOR claims no responsibility for its use by others. The Plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if these conditions change.

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I. GENERAL SITE REQUIREMENTS AND BACKGROUND INFORMATION

A. Health and Safety Plan Responsibilities

- Prior to beginning on-site work, the Project Manager will ensure Attachments 1-6 are completed.
- The Site Health and Safety Officer will ensure Attachments 7-10 are completed the first day of on-site work.
- The Site Health and Safety Officer will implement the Plan. He/she has the authority to stop work or prohibit any personnel from working on the site at any time for not complying with any aspect of the Plan.
- The Subcontractor Field Supervisor is directly responsible for implementing the Plan for his/her own employees, as applicable.
- Each person on the site has responsibility for their own health and safety, as well as assisting others in carrying out the Plan. Any person observed to be in violation of the Plan should be assisted in complying with the Plan, or reported to the Site Health and Safety Officer or the Subcontractor Field Supervisor.
- Any site personnel may shut down field activities if there is a real or perceived immediate danger to life or health.

B. Minimum Training and Medical Surveillance Requirements for Site Personnel

- 40 hr. Health and Safety Training for hazardous waste workers
- 8 hr. Annual Refresher Training
- 8 hr. Supervisor Training for Site Health and Safety Officer
- First Aid and CPR Training for Site Health and Safety Officer
- Respirator Fit Testing
- Medical Surveillance

C. Initial Site Entry Has this been performed by SECOR? (YES/NO): NO, If YES, describe:___

D. Purpose of Field Work:

This work is being performed to stabilize soil that has been recently disturbed by a contractor in association with a heating pipe modification project. It has been determined that the soil in the BIA Road Shop Facility area s contaminated with dinoseb and 2,4 D.

E. Detailed Description of Specific Tasks Planned (Number each separate task in order of progression. The task numbers assigned here will be referred to throughout the Plan):

1. Utility clearance and meeting (on-site).
2. Soil sampling in the vicinity to obtain more information about the extent and severity of the herbicide contamination.

Duck Valley Hydrocarbon Investigation, SECOR Project No.

3. Decontamination of equipment.
4. Covering the pile of disturbed soil (approximately 10' x 10') with 6 mil plastic sheeting.

F. Excavation and Trenching

Excavation and/or trenching will be done on this site? (YES/NO): NO. If YES, describe including proposed dimensions and if entry may be required (including mounting tanks for vacuuming, purging, sampling, etc.):

G. Landfills and Other Areas Potentially Containing Explosive Gas or Vapor

Site is in an area containing a current/former landfill, or the geology contains known/suspected pockets of explosive gas/vapor? (YES/NO): NO. If YES, describe: _____

H. Time of On-Site Work

Work will be done during daylight hours? (Yes/No): YES. If NO, describe: _____

I. Hazardous Materials

Will any hazardous materials (chemicals) be used on site? (If so, MSDS sheets will have to be attached to the Plan) YES/NO: NO. If YES, describe: _____

J. Background Information (e.g. historical and continuing operations or adjacent site contamination): Impacted soil along the pipeline was identified during a previous soil investigation

II. SITE CHARACTERISTICS

A. Facility Description (Identify structures, buildings, pits, impoundments, and work area.):

The investigation site is the town of Owyhee, NV. The site contains several operational and non-operational buildings used for maintenance purposes. The heating oil pipeline was installed throughout the residential area of town along the surface roads and underneath the highway.

B. Site Status:

Occupied (YES/NO): NO. If YES, describe current activities:

C. Unusual Site Features (water supply, telephone, radio, powerlines, traffic patterns, gas lines, water mains, terrain, vacant lots, debris, other physical hazards, etc.):

Inactive heating oil pipeline, typical underground utilities.

D. Site Map (See Attachment 4 - include adjacent buildings, encumbrances, site facility, previous project location (if any), and proposed project location.)

E. Contaminant Description (Maximum concentrations):

	Substance	Source of Contamination	Source of Sample	Sample Concentration (mg/Kg)	Environmental Regulatory Action Level (mg/Kg)
1	TPH (extractable)	Failed USTs and product lines	Soil	5900	100
2	Dinoseb	Herbicide Storage	Soil	640	
3	2,4-D	Herbicide Storage	Soil	670	
4	Creosol	Previous tasks at the site	Soil		

III. WASTE CHARACTERISTICS

Anticipated (YES/NO): YES

Types: Liquid X Solid _____ Sludge _____ Other (describe) _____

Quantity (Expected Volume): Unknown

Corrosive _____ Flammable/Ignitable _____ Radioactive _____ Toxic _____

Reactive _____ Unknown _____

Other (specify) _____

- open head 55-gallon drum _____
- closed head 55-gallon drum _____
- overpack drum _____
- baker tanks _____
- lined waste bins _____
- other The liquid waste will be allowed by EPA to remain the site.

Not Applicable

IV. TASK SPECIFIC HEALTH AND SAFETY RISK ANALYSIS
A. PREDOMINANT POTENTIAL SITE CHEMICAL HAZARDS
(GENERAL GUIDE ONLY)

CHEMICAL (OR CLASS)	PEL/TLV	OTHER PERTINENT LIMITS	WARNING PROPERTIES	ROUTES OF EXPOSURE OR IRRITATION	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS/ TARGET ORGANS
Herbicide - Dinoseb	N/A	NOEL= 3mg/kg/day	Yellow color, pungent odor	Inhalation, dermal	Chest and abdominal pain, thirst, fever, shortness of breath, insomnia, loss of appetite	Reproductive, teratogenic, potentially carcinogenic
Herbicide - 2,4-D	N/A		Light phenolic odor	Dermal, inhalation (minor)	Eye and dermal irritation	Sensitization, neural toxicity, teratogenic effects
Heating Oil	N/A	N/A	Characteristic diesel odor	Inhalation, dermal, ingestion	Skin/eye/mucous membrane irritant, headache, fatigue, dizziness.	Weak to moderate carcinogenic activity. Affects central nervous system, kidneys, liver.
Gasoline	N/A/300 ppm	TLV-STEL=500 ppm	Characteristic gasoline odor	Inhalation, dermal, ingestion	Skin/eye/mucous membrane irritant, headache, fatigue, dizziness.	Carcinogen (benzene)/central nervous system, kidneys, liver.
Benzene	1/0.3 ppm (Skin)	OSHA-STEL=5 ppm IDLH=3,000 ppm	Characteristic benzene odor	Inhalation, dermal, ingestion	Skin/eye/respiratory tract irritant, headache, dizziness, nausea.	Carcinogen/CNS, bone marrow, blood, skin.
Toluene	200/50 ppm (Skin)	IDLH=2,000 ppm PEL(C)=300 ppm	Sweet, pungent benzene-like odor	Inhalation, dermal, ingestion	Skin/eye/respiratory irritant, headache, dizziness, weakness.	CNS, liver, kidneys, skin.
Ethyl Benzene	100/100 ppm	TLV-STEL=125 ppm IDLH=2,000 ppm	Pungent aromatic odor	Inhalation, dermal, ingestion	Skin/eye/mucous membrane irritant, sleepiness, headache.	Eyes, respiratory system, skin, CNS.
Xylene	100/100 ppm	TLV-STEL=150 ppm IDLH=1,000 ppm	Aromatic odor	Inhalation, dermal, ingestion	Skin/eye/mucous membrane irritant, dizziness, drowsiness.	CNS, liver, kidneys, skin.
Creosote	5ppm/5ppm	NA	Sweet, tarry odor	Dermal, inhalation	Dermatitis, irritant	CNS, eyes, skin, liver, kidney

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PEL-TWA	=	Permissible Exposure Limit
TLV-TWA	=	Threshold Limit Value
Skin	=	Skin absorption can be a significant part of exposure
STEL	=	Short Term Exposure Limit
IDLH	=	Immediately Dangerous to Life or Health
C	=	Ceiling Limit
CNS	=	Central Nervous System
N/A	=	Not Available or Not established

*These PEL's are U.S. - Federal. Check your State or Provincial regulations as applicable.

B. Potential Non-Chemical Hazards

	YES	NO
OVERHEAD/UNDERGROUND HAZARDS		
•Overhead - utilities.	X	
•Underground - utilities	X	
EQUIPMENT HAZARDS		
•Drilling		X
•Excavation		X
•Machinery		X
Heat exposure	X	
Cold exposure (in winter)		
Oxygen deficiency		
Confined space		X
Noise	X	
Ionizing radiation		X
Non-ionizing radiation		X
Fire/Explosion	X	
Biological		X
SAFETY		
•Holes/ditches	X	
•Steep grades		X
•Slippery surfaces	X (possible)	
•Uneven terrain	X	
•Unstable surfaces	X	
•Elevated work surfaces		X
Shoring/Scaffolding	X (possible)	
OTHERs		
Traffic Hazards	X	
		X

C. Task Specific Hazards:

	TASK	HAZARD RATING	IDENTIFIED/ ANTICIPATED HAZARDS
1	Utility Clearance and meeting (on-site).	None	Trip, fall.
2	Soil sampling	Moderate	Potential chemical and/or vapor exposure.
3	Decontaminate heavy equipment	Moderate	Heavy equipment; potential chemical and/or vapor exposure, noise.
4	Installing cover on soil	Moderate	Potential chemical and/or vapor exposure, trip, fall.

D. Overall Hazard Rating

Unknown, low, moderate, serious, or extreme): Moderate

V. SITE HEALTH AND SAFETY PROCEDURES

A. Maps - Site Map and Hospital Location Map (Attachments 4 & 6, respectively): Hospital route must be clearly marked. POST SITE AND HOSPITAL LOCATION MAPS.

2. Site Security: Site Health and Safety Officer is responsible for preventing unauthorized entry onto the site and for knowing who is on site at all times.

1. Work will be done around heavy equipment (e.g. drill rig, backhoe, etc.) (YES/NO): NO

If YES, describe:

2. Work will be done in or adjacent to a road, street or highway (YES/NO): NO

If YES, describe:

3. Prior to working on-site, a general inspection for hazards will be made by the Site Health and Safety Officer.

4. Access to the work site will be controlled in the following manner: Portable fencing, caution tape and traffic delineators.

■ Work site area perimeter identification method (describe equipment and procedures to be used): Caution tape

■ Work area security (on and off-hours):

Site personnel shall delineate work area.

5. If an on-site command post is necessary, ensure that it is located upwind from sources, give prevailing winds.
6. On-site personnel must be able to call off-site via a telephone within 150 feet of work.
7. Post emergency telephone numbers (Attachment 1).
8. Designate at least one vehicle for emergency use.

C. Work Limitations and Restrictions:

1. No eating, drinking, or smoking on-site.
2. No contact lenses on-site.
3. No facial hair that would interfere with respirator fit.
4. Buddy system at all times in Level B until test results indicate that downgrading protection is reasonable.
5. Heat Stress
6. For temperatures above 70°F, each person will take their pulse at rest. At breaks, the pulse should be less than 110 beats per minute after one minute. Before returning to work, the pulse should be no more than 10 beats greater than the resting pulse.
7. Level B is expected for at least the initial stages of work until testing results indicate that protection can be safely downgraded. The work rest regimen should be 25% work/ 75% rest. Work should be done for 30 minutes with a rest break of 10 minutes for Level D. For Level C, work should be done for 20 minutes with a rest break of 10 minutes. At least 8 ounces (1 cup) of cool water, Gatorade-type drink, or dilute fruit juice should be consumed at each rest break or at least one cup every 20 minutes.
8. Work should stop if any of the following symptoms occur: muscle spasm and/or pain in the limbs or abdomen (heat cramps); weak pulse, heavy sweating, dizziness, and/or fatigue (heat exhaustion); or rapid pulse, no sweating, nausea, dizziness, and/or confusion (heat stroke). Provide First Aid immediately.
9. Use sunscreen on unprotected skin to protect against ultraviolet exposure. There should be no unprotected skin at level B.

D. Decontamination Procedures:

1. Personnel: Personnel will perform decontamination in the personal decontamination area upon entering the Contamination Reduction Zone. Decontamination of personnel in Level B will consist of the following steps:

1. Segregated Equipment Drop
2. Boot Cover & Glove Wash
3. Boot Cover & Glove Rinse
4. Tape Removal
5. Boot Cover Removal
6. Outer Glove Removal
7. Suit/Safety Boot Wash
8. Suit/SCBA/Boot/Glove Rinse
9. Tank Change and Redress ■ Boot Cover/Outer Gloves
10. Safety Boot Removal
11. SCBA Backpack Removal
12. Splash Suit Removal
13. Inner Glove Wash
14. Inner Glove Rinse
15. Face Piece Removal
16. Inner Glove Removal
17. Inner Clothing Removal
18. Field Wash (hands and face, other exposed areas.)
20. Redress

2. Sampling Apparatus:

Samplers, water level meters, and bailers will be rinsed withalconox wash and distilled water. Disposable bailers will be disposed on site.

3. Heavy Equipment:

Steam / high pressure wash. Rinse water will be contained in a catch basin.

E. General Procedures:

1. The Utility Clearance Log (Attachment 5) will be completed prior to beginning any subsurface work, if applicable.
2. Determine wind direction, establish exclusion zone, and set up decontamination reduction zone and support zone upwind.
3. Try to remain upwind when collecting samples, venting wells, etc.

4. Daily Health and Safety Briefings will be held by the Site Health and Safety Coordinator (Attachment 9). The first briefing will include, at a minimum, information in Sections V, VI.
5. Potable water must always be available at the work site.
6. Provide dust control by spraying soils with water or a surfactant/water solution.
7. Use ground fault circuit interrupters for plug-in electrical devices and extension cords (3-pin plugs only).
8. Be aware of tripping hazards with extension cords, tools, uneven grade, hoses, augers, etc.

F. Perimeter Identification:

Complete the table below indicating the type of zone boundaries required for this job.

Duck Valley Hydrocarbon Investigation, SECOR Project No.

TASK NO.¹	ZONE BOUNDARIES REQUIRED^{2,4}	LEVEL OF PROTECTION REQUIRED FOR EACH ZONE^{3,4}
1	Work Area Boundary / Exclusion Zone / Contamination Reduction Zone / Support Zone	Level B

1 ¹As identified in Section I, Subpart E.

²This job will require one or all of the following "zones" or "boundaries" to be established during work.

- a. Exclusion Zone - Required when workers within that zone must wear personal protective equipment (PPE).
- b. Contamination Reduction Zone - Required when decontamination of people and equipment leaving the Exclusion Zone is required.
- c. Support Zone - the location where administrative and other support activities are conducted.
- d. Work Area Boundary - Excludes non-workers from entering a potentially hazardous environment.

³ Level A - Self-contained breathing apparatus (SCBA), totally encapsulating suit, two-way radio communications.

Level B - SCBA or supplied-air respirator with an escape bottle, chemically resistant PPE, two-way radio communications.

Level C - Full- or half-face air-purifying respirator (with safety goggles), chemically resistant PPE.

Level D - No respiratory protection. Safety glasses, hard hat, steel-toe boots, long-sleeved shirt and pants. Hearing protection, gloves, and other PPE as required.

⁴If Level C, B, or A is used per Section E, Personal Protective Equipment, zone boundaries must include zones a-d.

G. Personal Protective Equipment Requirements:

Level 'D': Safety glasses, hard hat, disposable ear plugs, long-sleeved shirt and pants, steel-toe boots. For contact with moist soil or liquid:

Gloves Nitrile

Boot covers PVC (optional)

Chemical resistant suit PE Tyvek (optional)

Level 'C': Level 'D' plus half-mask respirator with safety goggles or full-face respirator.

Cartridges Organic Vapors / Acid gas / HEPA

Gloves Nitrile

Level 'B': Level 'C' plus SCBA or supplied-air respirator with an escape bottle, chemically resistant PPE, two-way radio communications.

Gloves Nitrile

Boot covers PVC

Chemical resistant suit PE Tyvek

TASK NO.	LEVEL OF PROTECTION	UPGRADED LEVEL OF PROTECTION
1	B	N/A

H. Safety Equipment and Supplies Requirements:

1. Reflective vests to be worn around moving vehicles, if any;
2. At least one ABC-type fire extinguisher;
3. First Aid Kit;
4. Emergency eyewash (enough solution for 15 minutes of cleansing);
5. Hearing protection in the form of disposable earplugs to be worn around heavy equipment, machinery, or when two individuals five feet or less apart need to shout to be heard;
6. Soap gel or disposable wipes;

Duck Valley Hydrocarbon Investigation, *SECOR* Project No.

7. Disposable towels;
8. Plastic sheeting; and,
9. Cleaning brushes and tubs.

Duck Valley Hydrocarbon Investigation, SECOR Project No.

I. Air Monitoring Equipment Requirements (to be conducted by Site Health and Safety Officer, Attachment 8).

		Task Numbers	GENERAL MONITORING FREQUENCY*
1	Personal exposure monitoring: ♦ Personal sampling pumps with appropriate filters and sorbent tubes	1	Air sampling pump for dinoseb and 2,4-D. The frequency should be for the first day in the exposure area throughout the entire exposure.
2.	Colorimetric tubes: • Dräger 0.5/benzene and 100/total hydrocarbons	1	If PID \geq 5 ppm breathing zone then pull total hydrocarbon colorimetric tube. If total hydrocarbons tests positive, stop work and go to level C.
3.	Other equipment: ♦ PM-10 for ambient air monitoring	1	Continuous during the task duration.

* See Section K, Action Level Table for Chemical Monitoring for details. Additional monitoring should begin immediately if the operation destabilizes, the environment changes, or the potential for exposure is otherwise affected.

J. Air Monitoring Equipment Calibration/Check Requirements (to be conducted by Site Health and Safety Officer, Attachment 7).

		FREQUENCY*
1.	Personal exposure monitoring:	N/A
2.	Other equipment: PM-10 for ambient air monitoring	Continuous during the task duration.

* See Section K, Action Level Table for Chemical Monitoring for details. Additional monitoring should begin immediately if the operation destabilizes, the environment changes, or the potential for exposure is otherwise affected.

K. Action Level Table For Chemical Monitoring

Not applicable for the soil stabilization phase of work.

VI. CONTINGENCY PLAN

A. Injury or Illness:

If an injury or illness occurs, take the following action:

- Get First Aid for the person immediately.
- Notify the Site Health and Safety Officer. The Site Health and Safety Officer is responsible for preparing and submitting the Injury/Illness Incident Report to the Health and Safety Director within 24 hours, as well as notifying the employee's supervisor and Principal-in-Charge.
- The Site Health and Safety Officer will assume charge during a medical emergency.

B. Local Emergency and Project Telephone Numbers (See Attachment 1)

C. Emergency Routes (Also see Hospital Location Map - Attachment 6):

- Route from off-site property to hospital: Take Interstate north approximately one-half mile and turn right into hospital entrance.

APPENDIX C

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYB0-COMP

Sample Collection Date: 9/16/99

ARF: 31199

APPL ID AP84158

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	121	82-150	%	9/30/99	10/5/99

Run #: 25
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:04 AM

EPA 8151 Herbicides Soil

Sector
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYB1-GOMP
Sample Collection Date: 9/16/99

ARF: 31199
APPL ID AP84159
QCG: S8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	115	82-150	%	9/30/99	10/5/99

Run #: 26
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYB2-COMP

Sample Collection Date: 9/16/99

ARF: 31199

APPL ID AP84160

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	115	82-150	%	9/30/99	10/5/99

Run #: 27
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1

EPA 8151 Herbicides Soil

Snoor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYB3-COMP

Sample Collection Date: 9/16/99

ARF: 31199

APPL ID AP84161

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	120	82-150	%	9/30/99	10/5/99

Run #: 28
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:05 AM

EPA 8151 Herbicides Soil

Sector
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYB4-COMP

Sample Collection Date: 9/15/99

ARF: 31199

APPL ID AP84162

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	114	82-150	%	9/30/99	10/5/99

Run #: 29
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:05 AM

EPA 8151 Herbicides Soil

Sector
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYB5-COMP

Sample Collection Date: 9/15/99

ARF: 31199

APPL ID AP84163

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Galapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MOPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	103	82-150	%	9/30/99	10/5/99

Run #: 30
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:06 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYC0-COMP
Sample Collection Date: 9/16/99

ARF: 31199
APPL ID AP84164
QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	110	82-150	%	9/30/99	10/5/99

Run #: 34
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:06 AM

EPA 8151 Herbicides Soil

Scor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYC1-COMP
Sample Collection Date: 9/16/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84165
QCG: \$8151S-990930B-19562

Method	Analyte:	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TIP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DD	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalepon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/5/99

Run #: 35
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYC2-COMP

Sample Collection Date: 9/16/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84166

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	200	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	120	82-150	%	9/30/99	10/5/99

Run #: 36
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KAW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYC3-COMP

Sample Collection Date: 9/16/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84167

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	126	82-150	%	9/30/99	10/5/99

Run #: 37
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/5/99 9:20:06 AM

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYG4-COMP

Sample Collection Date: 9/15/99

APPL Inc.

4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84149

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/7/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/7/99
EPA 8151	Galapon	Not detected	2000	ug/kg	9/30/99	10/7/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/7/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/7/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/7/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/7/99
EPA 8151	Surrogate: 2,4-DCAA	126	82-150	%	9/30/99	10/7/99

Run #: 110
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KWW

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3

Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYC5-COMP

Sample Collection Date: 9/15/99

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 31199

APPL ID AP84150

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/7/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/7/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/7/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/7/99
EPA 8151	Dinoseb (DNBP)	130	100	ug/kg	9/30/99	10/7/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/7/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/7/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/7/99

Run #: 111
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KWW

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3

Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYD0-COMP

Sample Collection Date: 9/16/99

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 31199

APPL ID AP84151

QCG: \$8151S-990930A-19618

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/7/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/7/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/7/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/7/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/7/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/7/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/7/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/7/99
EPA 8151	Surrogate: 2,4-DCAA	115	82-150	%	9/30/99	10/7/99

Run #: 112
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Sacor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYD1-COMP

Sample Collection Date: 9/16/99

ARF: 31199

APPL ID AP84152

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/4/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/4/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/4/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	Surrogate: 2,4-DCAA	117	82-150	%	9/30/99	10/4/99

Run #: 16
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:03 AM

EPA 8151 Herbicides Soil

Scor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYD2-COMP

Sample Collection Date: 9/16/99

ARF: 31199

APPL ID AP84153

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/4/99
EPA 8151	Delapen	Not detected	2000	ug/kg	9/30/99	10/4/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/4/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	Surrogate: 2,4-DCAA	122	82-150	%	9/30/99	10/4/99

Run #: 17
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:04 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYD4-COMP

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84154

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/4/99
EPA 8151	Delapon	Not detected	2000	ug/kg	9/30/99	10/4/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/4/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	Surrogate: 2,4-DCAA	114	82-150	%	9/30/99	10/4/99

Run #: 18
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, NV 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYD5-COMP

Sample Collection Date: 9/15/99

ARF: 31199

APPL ID AP84155

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/4/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/4/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/4/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/4/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/4/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/4/99
EPA 8151	Surrogate: 2,4-DCAA	121	82-150	%	9/30/99	10/4/99

Run #: 19
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/5/99 9:20:04 AM

EPA 8151 Herbicides Soil

Sender
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYE0.COMP

Sample Collection Date: 9/17/99

ARF: 31199

APPL ID AP84156

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	115	82-150	%	9/30/99	10/5/99

Run #: 23
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:04 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYE1-COMP
Sample Collection Date: 9/17/99

ARF: 31199
APPL ID AP84157
QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	112	82-150	%	9/30/99	10/5/99

Run #: 24
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Sector
1535 Hot Springs Rd, Ste 3
Carson Cy, NV 89706

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYE2-COMP
Sample Collection Date: 9/16/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84177
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	125	82-150	%	9/30/99	10/5/99

Run #: 57
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYE3-COMP
Sample Collection Date: 9/18/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84178
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	126	82-150	%	9/30/99	10/5/99

Run #: 58
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYE4-COMP
Sample Collection Date: 9/18/99

ARF: 31199
APPL ID AP84179
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	116	82-150	%	9/30/99	10/6/99

Run #: 59
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:07 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89708

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYE5-COMP
Sample Collection Date: 9/15/99

ARF: 31199
APPL ID AP84180
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Delepon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	122	82-150	%	9/30/99	10/6/99

Run #: 60
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:07 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Att: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYF0-COMP
Sample Collection Date: 9/17/99

ARF: 31199
APPL ID AP84181
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	100 J	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/6/99

J = Estimated value, below quantitation limit.

Run #: 61
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:08 AM

EPA 8151 Herbicides Soil

Sacor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYF1-COMP
Sample Collection Date: 9/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84182
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	114	82-150	%	9/30/99	10/6/99

Run #: 62
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:08 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYF2-COMP

Sample Collection Date: 9/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84183

QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MOPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	113	82-150	%	9/30/99	10/6/99

Run #: 63
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Cocor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYF3-COMP

Sample Collection Date: 9/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84184

QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	610	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	121	82-150	%	9/30/99	10/6/99

Run #: 67
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Aliot: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYF4-COMP
Sample Collection Date: 9/18/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84185
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	580	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/6/99

Run #: 68
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:08 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYF5-COMP

Sample Collection Date: 9/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84186

QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/6/99

Run #: 69
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:09 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Boss
Project: DUCK VALLEY
Sample ID: ARYG0-COMP
Sample Collection Date: 9/17/99

ARF: 31199
APPL ID AP84168
QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dialapron	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	113	82-150	%	9/30/99	10/5/99

Run #: 38
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 9:20:06 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYG1-COMP

Sample Collection Date: 9/17/99

ARF: 31199

APPL ID AP84169

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Datapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/5/99

Run #: 39
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYG2-COMP

Sample Collection Date: 9/17/99

ARF: 31199

APPL ID AP84170

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	117	82-150	%	9/30/99	10/5/99

Run #: 40
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89700

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYG3-COMP

Sample Collection Date: 9/17/99

ARF: 31199

APPL ID AP84171

QCG: \$8151S-990930B-19562

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	118	82-150	%	9/30/99	10/5/99

Run #: 41
Instrument: ECD01
Sequence: 991004

EPA 8151 Herbicides Soil

Specor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Att: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYG4-COMP
Sample Collection Date: 9/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84172
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/5/99

Run #: 49
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:06 AM

EPA 8151 Herbicides Soil

Sugar
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYG5-COMP
Sample Collection Date: 9/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84173
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Deleapen	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	111	82-150	%	9/30/99	10/5/99

Run #: 50
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:06 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYH1-COMP
Sample Collection Date: 9/17/99

ARF: 31199
APPL ID AP84174
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-Tp	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/5/99

Run #: 51
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:06 AM

EPA 8151 Herbicides Soil

Sector
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89703

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: ARYH2-COMP
Sample Collection Date: 9/17/99

ARF: 31199
APPL ID AP84175
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	115	82-150	%	9/30/99	10/5/99

Run #: 52
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:06 AM

EPA 8151 Herbicides Soil

Sacor
1535 Hol Springs Rd, Sto 3
Carson Cy, NV 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYH3-COMP

Sample Collection Date: 9/17/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84176

QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/5/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/5/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/5/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/5/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/5/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/5/99
EPA 8151	Surrogate: 2,4-DCAA	119	82-150	%	9/30/99	10/5/99

Run #: 56
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:48:07 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89708

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: ARYH4-COMP

Sample Collection Date: 9/17/99

ARF: 31199

APPL ID AP84187

QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4 DCAA	111	82-150	%	9/30/99	10/6/99

Run #: 70
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:09 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: SW1-COMP
Sample Collection Date: 9/18/99

ARF: 31199
APPL ID AP84188
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	111	82-150	%	9/30/99	10/6/99

Run #: 71
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:09 AM

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3

Carson Cy, NV 89708

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Jeff Collins

Project: DUCK VALLEY

Sample ID: SW1-COMP DUP

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84217

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	77.8 #	82-150	%	10/2/99	10/11/99

= Recovery is outside QC limits.

Run #: 70
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: SW2-COMP

Sample Collection Date: 9/18/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199

APPL ID AP84189

QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	102	82-150	%	9/30/99	10/6/99

Run #: 72
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Sacor

1535 Hot Springs Rd, Ste 3

Carson Cy, NV 89706

Attn: Jeff Collins

Project: DUCK VALLEY

Sample ID: SW2-COMP DUP

Sample Collection Date: 9/18/99

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 31199

APPL ID AP84218

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dimoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	117	82-150	%	10/2/99	10/11/99

Run #: 71
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Sacor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

Attn: Brian Bass
Project: DUCK VALLEY
Sample ID: SW3-COMP
Sample Collection Date: 9/18/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84190
QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	112	82-150	%	9/30/99	10/6/99

Run #: 73
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3

Carson Cy, NV 89706

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Jeff Collins

Project: DUCK VALLEY

Sample ID: SW3-COMP DUP

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84219

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	136	82-150	%	10/2/99	10/11/99

Run #: 72
Instrument: ECD01
Sequence: 991008
Dilution Factor: 1
Initials: kw

EPA 8151 Herbicides Soil

Sector
1635 Hot Springs Rd, Ste 3
Carson Cy, NV 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: SW4-COMP

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84191

QCG: \$8151S-990930C-19588

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-D	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	9/30/99	10/6/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	9/30/99	10/6/99
EPA 8151	Dicamba	Not detected	40	ug/kg	9/30/99	10/6/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	9/30/99	10/6/99
EPA 8151	Dinoseb (DNOP)	Not detected	100	ug/kg	9/30/99	10/6/99
EPA 8151	MCPA	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	MCPP	Not detected	40000	ug/kg	9/30/99	10/6/99
EPA 8151	Surrogate: 2,4-DCAA	113	82-150	%	9/30/99	10/6/99

Run #: 74
Instrument: ECD01
Sequence: 991004
Dilution Factor: 1
Initials: KW

Printed: 10/6/99 11:46:10 AM

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3
Carson Cy, NV 89708APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Jeff Collins

Project: DUCK VALLEY

Sample ID: SW4-COMP DUP

ARF: 31199

Sample Collection Date: 9/18/99

APPL ID AP84220

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Diechlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	126	82-150	%	10/2/99	10/11/99

Run #: 73
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: WF1-COMP

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84193

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/10/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/10/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/10/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	Surrogate: 2,4-DCAA	116	82-150	%	10/2/99	10/10/99

Run #: 52
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: WF2-COMP

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84194

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/10/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/10/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/10/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	Surrogate: 2,4-DCAA	117	82-150	%	10/2/99	10/10/99

Run #: 53
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, NV 89706

Attn: Jeff Collins
Project: DUCK VALLEY
Sample ID: WF2-COMP DUP
Sample Collection Date: 9/18/99

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 31199
APPL ID AP84223

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	115	82-150	%	10/2/99	10/11/99

Run #: 76
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

Printed: 10/12/99 7:47:45 AM

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: DAY1-COMP

Sample Collection Date: 9/20/99

ARF: 31199

APPL ID AP84195

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/10/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/10/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/10/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	Surrogate: 2,4-DCAA	123	82-150	%	10/2/99	10/10/99

Run #: 57
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Sector
1535 Hot Springs Rd, Sto 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: BAY2-COMP

Sample Collection Date: 9/20/99

ARF: 31199

APPL ID AP84196

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-D	570	200	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/10/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/10/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	Diflufenican (DNBP)	Not detected	100	ug/kg	10/2/99	10/10/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	Surrogate: 2,4-DCAA	108	82-150	%	10/2/99	10/10/99

Run #: 58
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: 3B1-COMP (BAY 3)

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84197

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	63	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	16000	4000	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	67 J	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	116	82-150	%	10/2/99	10/11/99

J = Estimated value, below quantitation limit.

Run #: 59/77
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1/20
Initials: KW

EPA 8151 Herbicides Soil

Sacor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: 3B2-COMP (BAY 3)

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84198

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	23 J	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	800	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4 DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	52 J	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	125	82-150	%	10/2/99	10/11/99

J = Estimated value, below quantitation limit.

Run #: 60
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Specor

1535 Hot Springs Rd, Ste 3

Carson Cy, Nv 89706

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: BAY4-COMP

Sample Collection Date: 0/20/99

ARF: 31199

APPL ID AP84199

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	2200	1000	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	132	82-150	%	10/2/99	10/11/99

Run #: 6178
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1/5
Initials: KW

EPA 8151 Herbicides Soil

Sector

1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: BAYG-COMP

ARF: 31199

Sample Collection Date: 9/20/99

APPL ID AP84200

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	200	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	141	82-150	%	10/2/99	10/11/99

Run #: 62
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3

Carson Cy, Nv 89706

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: BAY6A-COMP

Sample Collection Date: 9/18/99

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 31199

APPL ID AP84201

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	52	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	1100	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinosob (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	116	82-150	%	10/2/99	10/11/99

Run #: 63
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Sacor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: BAY7A-COMP

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84202

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	110	82-150	%	10/2/99	10/11/99

Run #: 64
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3

Carson Cy, Nv 89705

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: BAY8A-COMP

Sample Collection Date: 9/18/99

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 31199

APPL ID AP84203

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	200	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	127	82-150	%	10/2/99	10/11/99

Run #: 68
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Sacor
1535 Hot Springs Rd, Ste 3
Carson Cy, Nv 89706

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: WT-1-COMP (BAY 11)

Sample Collection Date: 9/18/99

ARF: 31199

APPL ID AP84192

QCG: \$8151S-991002B-19679

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-D	230	200	ug/kg	10/2/99	10/10/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/10/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/10/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/10/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/10/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/10/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/10/99
EPA 8151	Surrogate: 2,4-DCAA	114	82-150	%	10/2/99	10/10/99

Run #: 50
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1
Initials: KW

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3
Carson Cy, NV 89706APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Jeff Collins

Project: DUCK VALLEY

Sample ID: WT-1-COMP (BAY11) DUP

ARF: 31199

Sample Collection Date: 9/18/99

APPL ID AP84221

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	42	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	116	82-150	%	10/2/99	10/11/99

Run #: 74
Instrument: ECD01
Sequence: 991009
Dilution Factor: 1

EPA 8151 Herbicides Soil

Secor

1535 Hot Springs Rd, Ste 3

Carson Cy, Nv 89706

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Brian Bass

Project: DUCK VALLEY

Sample ID: FIELD BLANK

Sample Collection Date: 9/10/99

ARF: 31199

APPL ID AP84204

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 8151	2,4,5-T	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4,5-TP	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-D	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	2,4-DB	Not detected	400	ug/kg	10/2/99	10/11/99
EPA 8151	Dalapon	Not detected	2000	ug/kg	10/2/99	10/11/99
EPA 8151	Dicamba	Not detected	40	ug/kg	10/2/99	10/11/99
EPA 8151	Dichlorprop (2,4-DP)	Not detected	200	ug/kg	10/2/99	10/11/99
EPA 8151	Dinoseb (DNBP)	Not detected	100	ug/kg	10/2/99	10/11/99
EPA 8151	MCPA	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	MCPP	Not detected	40000	ug/kg	10/2/99	10/11/99
EPA 8151	Surrogate: 2,4-DCAA	111	82-150	%	10/2/99	10/11/99

Run #: 69
Instrument: ECD01
Sequence: 891009
Dilution Factor: 1
Initials: KW

APPL Results

Results for completed analyses only (including NDs).

Sector

Attn: Jeff Collins

Sample ID	APPL ID	ARF	Analyte	Result	PQL	Units	Method
ARYC4-COMP	AP84149	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC4-COMP	AP84149	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC5-COMP	AP84150	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC5-COMP	AP84150	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD0-COMP	AP84151	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD0-COMP	AP84151	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD1-COMP	AP84152	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD1-COMP	AP84152	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD2-COMP	AP84153	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD2-COMP	AP84153	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD4-COMP	AP84154	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD4-COMP	AP84154	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD5-COMP	AP84155	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYD5-COMP	AP84155	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE0-COMP	AP84156	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE0-COMP	AP84156	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE1-COMP	AP84157	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE1-COMP	AP84157	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE0-COMP	AP84158	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE0-COMP	AP84158	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB1-COMP	AP84159	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB1-COMP	AP84159	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB2-COMP	AP84160	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB2-COMP	AP84160	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB3-COMP	AP84161	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB3-COMP	AP84161	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1

These results are preliminary and represent information available on 10/19/99 at 1:14pm

APPL Results

Results for completed analyses only (including NDs).

Sacor

Attn: Jeff Collins

Sample ID	APPL ID	ARF	Analyte	Result	PQL	Units	Method
ARYB1-COMP	AP84162	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB1-COMP	AP84162	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB3-COMP	AP84163	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYB3-COMP	AP84163	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC8-COMP	AP84164	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC8-COMP	AP84164	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC1-COMP	AP84165	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC1-COMP	AP84165	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC2-COMP	AP84166	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC2-COMP	AP84166	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC3-COMP	AP84167	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYC3-COMP	AP84167	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG8-COMP	AP84168	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG8-COMP	AP84168	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG1-COMP	AP84169	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG1-COMP	AP84169	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG2-COMP	AP84170	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG2-COMP	AP84170	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG3-COMP	AP84171	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG3-COMP	AP84171	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG4-COMP	AP84172	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG4-COMP	AP84172	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG5-COMP	AP84173	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYG5-COMP	AP84173	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYH1-COMP	AP84174	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1

These results are preliminary and represent information available on 10/19/99 at 1:14pm

APPL Results

Results for completed analyses only (including NDs).

Secor

Attn: Jeff Collins

Sample ID	APPL ID	ARF	Analyte	Result	PQL	Units	Method
ARYH1-COMP	AP84174	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYH2-COMP	AP84175	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYH2-COMP	AP84175	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYH3-COMP	AP84176	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYH3-COMP	AP84176	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE2-COMP	AP84177	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE2-COMP	AP84177	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE3-COMP	AP84178	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE3-COMP	AP84178	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE4-COMP	AP84179	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE4-COMP	AP84179	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE5-COMP	AP84180	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYE5-COMP	AP84180	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF0-COMP	AP84181	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF0-COMP	AP84181	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF1-COMP	AP84182	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF1-COMP	AP84182	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF2-COMP	AP84183	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF2-COMP	AP84183	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF3-COMP	AP84184	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF3-COMP	AP84184	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF4-COMP	AP84185	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF4-COMP	AP84185	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF5-COMP	AP84186	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYF5-COMP	AP84186	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1

These results are preliminary and represent information available on 10/19/99 at 1:14pm

APPL Results

Results for completed analyses only (including NDs).

Secor

Attn: Jeff Collins

Sample ID	APPL ID	ARF	Analyte	Result	PQL	Units	Method
ARYH4-COMP	AP84187	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
ARYH4-COMP	AP84187	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW1-COMP	AP84188	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW1-COMP	AP84188	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW2-COMP	AP84189	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW2-COMP	AP84189	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW3-COMP	AP84190	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW3-COMP	AP84190	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW4-COMP	AP84191	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW4-COMP	AP84191	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP (BAY 11)	AP84192	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP (BAY 11)	AP84192	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP	AP84193	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP	AP84193	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF2-COMP	AP84194	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF2-COMP	AP84194	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY1-COMP	AP84195	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY1-COMP	AP84195	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY2-COMP	AP84196	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY2-COMP	AP84196	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY3-COMP (BAY 3)	AP84197	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY3-COMP (BAY 3)	AP84197	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY2-COMP (BAY 3)	AP84198	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY2-COMP (BAY 3)	AP84198	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY4-COMP	AP84199	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY4-COMP	AP84199	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1

These results are preliminary and represent information available on 10/19/99 at 1:14pm

APPL Results

Results for completed analyses only (including NDs).

Secor

Affn: Brian Bass

Sample ID	APPL ID	ARF	Analyte	Result	PQL	Units	Method
BAY5-COMP	AP84200	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY5-COMP	AP84200	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY6A-COMP	AP84201	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY6A-COMP	AP84201	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY7A-COMP	AP84202	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY7A-COMP	AP84202	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY8A-COMP	AP84203	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
BAY8A-COMP	AP84203	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
FIELD BLANK	AP84204	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
FIELD BLANK	AP84204	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW1-COMP DUP	AP84217	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW1-COMP DUP	AP84217	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW2-COMP DUP	AP84218	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW2-COMP DUP	AP84218	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW3-COMP DUP	AP84219	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW3-COMP DUP	AP84219	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW4-COMP DUP	AP84220	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
SW4-COMP DUP	AP84220	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP (DAY11) DU	AP84221	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP (DAY11) DU	AP84221	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP DUP	AP84222	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF1-COMP DUP	AP84222	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF2-COMP DUP	AP84223	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1
WF2-COMP DUP	AP84223	31199	Total Phenolics -S	Not detected	100	ug/kg	EPA 420.1

These results are preliminary and represent information available on 10/19/99 at 1:14pm

Site Characterization Work Plan Comments
Roads Shop Yard
SECOR JOB 31038-001-01
Environmental Restoration and Compliance, BIA Western Region
August 12, 1999

The following comments are intended to clarify areas of the project, and provide recommendations for site characterization. SECOR may modify these recommendations to improve the quality of the characterization effort.

1. Title: Change "Duck Valley Indian Reservation Road Yard" to "Roads Shop Yard".
2. Section 2.4, first paragraph, last sentence: Change "will" to "may".
3. Section 5.2, subsequent to first paragraph, add: A sample will be collected from each grid location and locations 17 feet north, south, east, and west of that location. These five samples will be composited to one sample for analysis. If the sample is near a fence or structure, four samples will be composited as applicable.

Regarding the methodology for the suspected release areas will a geoprobe be used?

One composite sample will be collected in each bay to include a distance five feet east of each bay.

Suspected areas of release include the third bay, the southwest corner of the Roads Shop Yard, and an area in the vicinity of the water faucet on the north side of Building 323. Sampling and cleanup of the third bay and associated waste pile is discussed in ?????.

Regarding the other two areas, sampling will be collected in a radial manner, starting from the southwest corner of the Roads Shop Yard, and the water faucet and composited (see attached drawing). Samples will be collected every five feet. Four samples will be collected in these two suspected areas of release.

4. Section 5.2: Sampling protocol of the waste piles should be discussed.
5. Figure 2:
 - a. Add five sample locations along South Fence.
 - b. From southwest corner of the Roads Shop Yard, indicate a grid system every five feet to a distance of 20 feet..
 - c. From water faucet at north area of Roads Shop indicate a grid system every five feet to a distance of 20 feet.
 - d. Indicate one composite sample in each bay of Building 324.

6. Include a plan to remove the waste pile(s) from the third bay. The removal of these soils must occur when school is not in session.
7. If composite sampling indicates detectable levels of contaminants, then discrete samples will be taken of samples included in that composite sample.
8. Include further strategy for Phase 2. This is necessary so that a new proposal does not need to be submitted to move forward with sampling. If the sampling strategy changes, this change can be submitted as an amendment.
9. Include staff charge rates, analysis rates, equipment rental rates, etc. so that a Not to Exceed Purchase Contract can be issued.

SW Corner of Yard

